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US EPA RECORDS CENTER REGION 5



Date: 7-22-00

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Note:	Transmitt	al Letter	to Be	Included	with	Reports
	nents:					

TSD File Inventory mack

Date: 7-22-00
Initial: 4/6

acility Name: Wacker Silic	one-	Larp.	
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A.1 General Correspondence	/	B.2 Permit Docket (B.1.2)	
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Note:	Transmittal	Letter	to Be	Included with	Reports.
	nents:				

To: Keith Slider, Robert Lary

From: Carole Harris

Re: Wacker Silicones Corporation Draft PA/VSI Report QC Comments

Date: January 17, 2001

cc: John Koehnen, Mike Powers

I have completed my review of the draft report and the associated references. I do not have time to sugar-coat my comments, so I will tell you up front that there is a lot of work yet to be done on this report. I would guess that this is one of the first reports of this kind that you two have written. I hope you will be able to take these comments and learn from the effort such that future reports will be much easier to complete.

General

First, as mentioned to Keith on the telephone, the logbooks are very deficient. The logbook should document all of the information that was gathered both verbally and visually from the VSI. There is no need to recite the purpose of the PA/VSI in the logbook. The SWMU list may be documented in the logbook, but should not be considered "final" until you have confirmed the existence of each unit, located any units not identified in the references, and concluded your inspection. Many times a unit may be referred to by various names over the history of the site, the VSI is an opportunity to clarify this nomenclature. Most of all, the VSI (and hence logbook) is the time and place to document all of the questions that have been raised in reviewing the files, and the responses from facility personnel. From the logbooks that you have provided, I cannot tell whether you asked any questions of the facility, what information you may have received from the facility, or even who was present at the facility. As soon as the VSI meeting begins, please document the personnel present, both ours, the facilities, and any agency personnel from the EPA or State department. Both people present should be documenting the conversations and information provided such that you can confirm the information with the other logbook entries. The organization of brief observations and photographs taken is good, but more information should be collected/written in, such as approximate dimensions of the units inspected, materials of construction, wastes managed and how wastes are disposed of, relationship and proximity to other SWMUs or landmarks, and especially for the photolog, other items visible in each photograph. One other note for the photolog, the direction the photograph was taken should be noted indoors as well.

Second, the general report format for the Site Description information does not follow the example report (at least the one I was given). Chapter II of the report should completely cover the Site Description. This section should begin with the current physical description of the site, cover the operational details (what does the site do), and document the history of the site, both in major construction/demolition activities and changes to manufacturing/process operations. Following this information should be three subheadings: 1. Release History; 2. Environmental Setting; and, 3. Regulatory History. Please combine and reorganize sections II and III of the draft report to fit this format.

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When providing information in the report, please avoid copying information directly from the references. Once you have read the references, you should put the information in your own words for the report. This will ensure that you are covering all of the details that you need to address and that the chronology is accurate, as well as making the information flow more smoothly. For example, the report cites the 100-year floodplain elevation, but does not say whether the facility is above, partially above/below, or below this elevation. In other instances, the information you have presented is outdated, but this is not obvious because the paragraphs have been lifted without mentioning the applicable time frame. For example, the last paragraph on page I-1 states that Outfall 002 "transports water from the evaporation and settling basin", this cannot be current since the Evaporation and Settling Basin was removed from service and sealed over in 1982.

The report states that a RCRA permit was issued in 1984 for the HW drum storage area and three HW storage tanks. The tanks were closed under RCRA in 1992 and 1993, and the drum storage area was closed in 1994/95. What is the current regulatory status of the facility? The drum storage area is still operational according to the photographs - are they operating the unit as a less-than-90-day storage area, thus avoiding the need for a permit? This information should be included in the Regulatory History subheading, as well as within the SWMU descriptions of the specific units.

SWMU descriptions lack a great deal of detail which is needed to understand the flow and management of wastes at the facility. Each SWMU description should include a full description of the wastes managed, including the applicable hazardous waste codes, a discussion of where the wastes come from, how they get to the unit, and where they go from the unit (i.e. shipped offsite or pumped to another lagoon).

The references have not been arranged chronologically and reference numbers have not been marked on them. While it may not always be apparent, we request that things be done a certain way for a reason. Had the references been placed in chronological order, the current status of the soil and groundwater contamination would have been more apparent, and the operational history of the SWMUs clearer. In addition, examining the references for dates helps to avoid missing documents that are inadvertently attached to the back of other documents. In this case, reference number 7 dated September 25, 1984 included a second letter which was dated December 11, 1984 (obviously not an attachment). Applying numbers to the documents (once in chronological order), helps the user to easily replace a reference in the correct location.

Nearly every SWMU description contains a canned comment stating that "current owners reportedly have no knowledge of previous operations..." This would imply that the facility changed ownership recently, but that is not the case. Since questions and answers are not documented in the logbooks, it is impossible to tell what information we requested regarding each unit, and what information was not available from the site representative. One of the facility representatives available during the VSI, Mr. Robert Sullivan, has been at the facility since at least 1995 (correct ordering of the references would have made this more apparent). He should have been able to provide information regarding all of the current units, at a minimum.

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Mike has recently issued additional guidance regarding the numbering of photographs in the report and photolog. Each photograph should have one number assigned to it. The "Report Photograph No." should be removed, and only "Photograph No(s)." should be provided in each SWMU description. In addition, it was very hard to follow the numbers provided in the draft report. For example under SWMU 14 the description refers to Report Photograph No. 1 and Logbook Photograph Nos. 8 through 12, but two photographs were provided in the photolog. Revise the photolog to include a single number per photograph, then revise the SWMU descriptions to include the accurate photograph numbers. Each photograph should have it's own caption as well. The protocol in EPA Region 4 is to include all photographs taken, you will need to check with Mike to see if this applies in Region 5. Also, in the future, please photograph the locations of former units that have been removed to document the current condition of the site.

One editorial note, please be consistent with your abbreviations and spell-check the document once you are finished with the edits. I would guess (but please confirm with Mike) that feet (ft) would be the preferred abbreviation to ('). Spell-check should catch the more obvious typographical errors (only a few found).

Specific Comments According to Example

- 1. The Executive Summary is too brief. Once you have completed the other sections of the report, the executive summary should provide a synopsis of the information presented in the report. Include brief paragraphs regarding the facility operations, regulatory status, and current remediation efforts for the documented releases. Conclude with a statement indicating whether additional corrective actions appear warranted. Double check the number of SWMUs and AOCs listed after completely addressing QC comments.
- Any time a SWMU name is mentioned in the text, include the SWMU number.
 - 3. Why have we not included the "network of culverts, ditches and underground pipes" as a separate SWMU? The facility apparently has two separate sewer systems, one for storm water and one for process wastewater. We have included the end-points as SWMUs (basins), but fail to address how the waste is transported from the process operations to the basins. Suggest adding Storm Sewer System and Process Sewer System as SWMUs. Check with Mike to see if this approach is utilized in EPA Region 5.
 - 4. The process information presented in the report was also lifted directly from an older reference. Did you confirm that the facility still manufactures the same products? Some SWMUs were closed in the early to mid 1980s due to process changes which eliminated the wastes being produced. This would imply that process operations have changed over time. A current description of process operations and wastes generated is needed from the facility.
 - 5. The Release History presents only the information relative to the "finding" of the releases

at the site. Over 20 years have passed since the releases were identified. While the draft report also mentions the 2000 HG investigation for the proposed residential development nearby, it does not address the information gathered regarding the releases to soil and GW over the past 20+ years. Update the Release History to include the current release information such as the concentrations of chemicals in the ground water, the extent to which the contaminated soil has been removed, and the extent of ground water contamination (including off-site migration).

- The Regulatory History section, once revised, should be organized according the applicable regulations. The focus of our reports is of course RCRA, but some Air and NPDES info is also relevant.
 - The RCRA inspection of September 1992 mentions as a violation the failure to relocate HW drums from the Hi-Bay area to the hazardous drum storage area within three days. This would imply, and another reference appears to confirm, that the facility utilizes Satellite Accumulation Areas (SAAs either drums or 450 gal hoppers) for the management of hazardous wastes generated from process operations. These units should be listed as SWMUs. The normal method is to identify one SWMU number as SAAs, then list the specific SAAs (usually by location) as subunits (i.e. SWMU 3A thru G). Were process areas inspected during the VSI? Did you observe the staging of any wastes in the process areas? Please confirm the use of SAAs with the facility, and obtain details if possible, for a SWMU description.
 - 8. Table 1 SWMUs and AOCs does not use the same nomenclature for the units as is provided in the SWMU descriptions. Revise this table once the QC edits have been addressed. Use the exact name for each SWMU as is used in the SWMU description. If the SWMU was previously called another name, this should be explained in the SWMU description.
 - 9. Table 1 indicates that a number of units have been listed as both SWMUs and AOCs. This is not necessary. If you are concerned about a release from a SWMU, it will be addressed in corrective actions for that SWMU, it does not need to be highlighted as an AOC. Delete the AOCs that are already identified and described as SWMUs.
 - 10. SWMU 1 Tank T-101 is described as operating from 1964 to 1975. This is incorrect since this tank was permitted under RCRA in 1984 and closed in 1992. The error comes from misinterpreting the facility representative notes provided in Reference 24, dated May 5, 1989. This reference appears to have been relied upon heavily for the SWMU descriptions, and misread on a number of occasions. In this particular case it appears that the tank was utilized for methyl chloride storage from 1964 to 1975, then in 1980 began storing RCRA hazardous waste. The column titled Description/Comments includes the following "Stored methyl chloride 1964-1975", but the column titled Date Started says 1980. Please revise this SWMU description accordingly and add details available from the Tank Closure Report dated 1992. Specifically, this description should mention that the unit was permitted and closed under RCRA, and the hazardous waste code(s) should

be included for the waste managed. Be sure to mention that closure under RCRA, in this case, involved demolition and removal of the tank.

- 11. SWMU 2 Tank T-105 and SWMU 3 Tank T-108 similar error made in period of operation as in SWMU 1 above. Again, add details provided in Closure Report dated 1993, including hazardous waste codes and details regarding closure tanks cut into pieces and removed from site. Add details regarding RCRA permitting as well.
- The SWMU list includes Hazardous Waste Pad #1 (SWMU 4) and Hazardous Waste Pad 12. #2 (SWMU 19). There appears to be a great deal of confusion in the details presented for each unit. My first suggestion would be to rename the units to "RCRA Hazardous Waste Pad (SWMU 4) and Former Hazardous Waste Pad (SWMU 19). The RCRA HW Pad began operations in 1980 (acc. to ref. 24), and was closed under RCRA in 1994, certified closed in 1995. Current use of this pad has been questioned in the general comments (<90-day storage?). The SWMU 4 description says that the unit is now covered by an asphalt parking lot, but I could not find any indication of this from the files and the description matches the unit that was photographed. The other Former HW Pad has been in operation since 1965, storing hazardous wastes from 1965 to 1983, then nonhazardous waste "drums only" from 1983 to ??. The reference to "drums only" could mean the empty drums, but this would need to be confirmed with the facility representative. This Former HW Pad is described in Reference 24 as lines 19 and 20. Maps should be reviewed to determine the location of the Former HW Pad in the plant versus the RCRA HW Pad located east of the operating plant (north of the former Evaporation and Settling Basin).
- 13. Location descriptions within the SWMU sheets need to provide additional detail. To say a unit is located on the east side of the plant leaves a lot of room for interpretation. Please include references to any adjacent units or buildings which can serve as landmarks in locating the unit.
- 14. SWMU 5 Tank T-417 has also been influenced by misinterpretations from Reference 24. The Description/Comments column indicates that the tank was used to store crude HCl from 1973 to 1976. The Date Started column indicates that the tank has been used for storage/treatment of washwaters since 1980. A Date Closed is not provided, therefore we know it was still operating in 1989. The SWMU description, as written, assumes that the tank ceased operations in 1976 and was removed. Do we have any other indication or reason to believe the tank was removed from operations? This comment also applies to SWMU 6 Tank T-418 and SWMU 7 Tank T-419.
- 15. SWMU 8 HiBay Sump Pump should not include the Pump in the name. The SWMU is the Sump, the pump is apparatus within the sump. This unit is also described in Reference 24, but the pump is not mentioned there. The unit started receiving washwaters containing hazardous constituents in 1981. According to the Description/Comment column, the unit was relocated in 1989. We need additional information from the facility to understand whether one unit was closed and another

constructed at that time, or if the unit was physically removed and relocated to a new location. Either way we need to know and show on the SWMU map both locations. Since the notes indicate that both this sump and Tank T-417 are in the Hi-Bay area and manage approximately 200,000 gallons per year, it could be inferred that this unit pumped the washwater either to or from the tank. My guess would be that the washwater entered the sump and was pumped to the tank, but we would need to get the facility representative to confirm this. If the facility rep claims to not know about "past operations" (if this is no longer occurring), he can always ask others that have worked there longer than he has.

- 16. SWMU 9 RTV Sump Pumps again, remove the Pumps from the name, this should be called the RTV Sumps. The period of operation says that the unit ceased operating in 1989, how do we know this? Reference 24 does not give a closure date, thus we know it was operating in 1989 but do not know when or if it has ceased operating. Need to confirm from the facility representative. We also need to determine where the waste is pumped to from these sumps.
- 17. Both SWMU 8 and 9 involve underground units that managed washwater containing hazardous constituents. One was constructed of concrete and the others of carbon steel, and none of them were lined according to Reference 24. Depending on the hazardous constituents present in the waste managed, we may want to consider asking for some confirmation/evidence that the units did not release hazardous constituents to the underlying soil.
- 18. SWMUs 10 through13 are additional tanks listed in Reference 24. Additional details should be included in the descriptions as provided in the reference. In addition, if these units are still operating, we need to remove the canned statement regarding facility reps not having knowledge of previous operations and include information regarding current operations. We have stated that the tanks were not inspected because there was some confusion regarding the numbering of the tanks. Please provide the new numbers for the tanks such that future inspections will not have the same problem. The SWMU names may be changed to include the new numbers, if you or Mike think this would be appropriate.
- 19. SWMU 14 is titled API Tank/Chemical Sewer System. As mentioned previously I would include the Chemical Sewer System as a separate SWMU. This is certainly a current operation and as such we should be able to get additional information about the system from the facility representatives. For instance, what is the material of construction of the sewer system components? Are the drainage ditches lined? If so, with what?
- 20. Reference 8, dated August 17, 1999 discusses the closure of the "Wastewater Lagoon". It is not clear from our SWMU descriptions which pond this is in reference to, the Equalization Pond (SWMU 15) or the SPCC Pond (SWMU 18). The facility representative from the VSI, Robert Sullivan, signed the document and should be able to clarify this for us. Then the information should be added to the SWMU description.

- 21. SWMUs 16 and 17 are titled North and South Chemical Waste Ponds, however the CW abbreviation appears to stadn for Cooling Water, not Chemical Waste. I could not find any reference to chemical waste being managed in the Cooling Water Ponds. The names should be changed accordingly.
- 22. Many details are included in Reference 24 for SWMU 20 Old Evaporation Pond which are not included in the SWMU description. Please add information regarding the closure by MDNR (under water regs?), and the disposal of lime slurry from 1970 to 1974, then wash waters from 1974 to 1980. The History of Release section needs to focus on the groundwater plume from this unit, not perching of water in the area. Include as much detail as possible, such as concentrations found in the latest sampling events. Need to mention in the SWMU description that this unit is also referred to as the Evaporation and Settling Basin.
- 23. The Old Drum Burial Area (SWMU 21) is a small area within a large (4 acre) disposal area described in the references. I'd suggest adding the large disposal area, either as a separate unit or with the Drum Burial area and the RX Bed Disposal Area (SWMU 22) as subunits (if appropriate). Again, the History of Release does not come close to explaining all that has been learned about the soil and ground water contamination from this disposal action. Please revise to include details regarding the soil excavations and recent ground water monitoring efforts.
- 24. As mentioned earlier, the SWMUs do not need to be repeated as AOCs. The one remaining AOC -Outfall 001 can also be removed. This is a NPDES permitted outfall. We do not have evidence of a release in excess of what the facility is permitted to release.
- 25. Some references refer to an abandoned pilot plant. Did you inspect this area? Was there any concern with the materials handled there? Depending upon the process conducted in the pilot plant, the length of period it was operated, and the secondary containment structures in place, this area could possibly be considered an AOC.
- 26. Maps Clearer and more comprehensive maps are available from some of the references, particularly the closure reports. Be certain that you can identify all of the SWMUs and AOCs on the SWMU map, or use more than one map if necessary.
- Another concern with the Large Disposal Area is the finding of high concentrations of PCE and TCE (>1.5 million ppb and >47,000 ppb, respectively) in the "green fill material". Where did the fill material come from? This information is in the June 30, 1999 Hydrogeologic Investigation Report. Further corrective action may be warranted in this area. The final reference, Case Development Form dated December 1979, mentions "improper disposal of seepage lagoon sludge on land". This also may refer to the large disposal area.

In conclusion, you still have a lot of work to do in completing this report. The comments written on the draft document are messy since I asked questions then later found the answers in the references. If you have any questions regarding these comments or how you should proceed, please feel free to give me a call, or ask Mike for direction. I hope these comments will help you in preparing the next report as well.

DECEMBER 19, 2000

PROPOSED INSPECTION SCHEDULE

December 19, 2000: 9:00 a.m. - 4:00 p.m. (0900-1600)

INTRODUCTORY MEETING

Inspection Team will meet with Wacker Silicones Corporation personnel to discuss:

- Purpose of visit;
- Agenda;
- Health and safety considerations;
 - Transportation arrangements (if appropriate);
 - Facility history and operations; and,
 - Additional information needs pertaining to the SWMUs identified during the PA.

No EXIT

INSPECTION TOUR OF POTENTIAL SWMUS

The inspection tour will consist of a visual inspection of the identified SWMUs. Photographs of these units and areas will be taken. The inspection tour schedule will be discussed and agreed upon during the introductory meeting and discussions.

The following is a list of potential SWMUs identified during



TECHLAW, INC.
OVERLAND PARK, KANSAS

Contact Report

Originator Stiller	Date_ <u>[2</u> -	-5-00	Time 140	5
Made Call Received Call Meeting a	TechLaw 🗖 🛚 1	Meeting @_		
Person(s) Contacted (Organization) 3cm	nifer Rod	Briez.	(517) 780	<u> </u>
TechLaw Personnel Keith Slidu	<u> </u>		·- · · · · · · · · · · · · · · · · · ·	
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her supervisor a notify To	chlaw		·	·
				
Action	Items			
Person Required Responsible	l Action		Date <u>Required</u>	
				
				
Distribution				



TECHLAW, INC.

OVERLAND PARK, KANSAS

Contact Report

Originator Slider	<u>- </u>	_ Date	00 Time 10	00
Made Call 🗖 Received	Call Meeting at Te	chLaw 🗖 Mee	ting @	
Person(s) Contacted (Orga	nization) PAU	Nelson	(517) 264-	5204
TechLaw Personnel	Slider	·····		
Purpose of Contact GA	there Informati	ion on 1	· Jell log	
for County of	Tabe C	onpleted	U	
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Person <u>Responsible</u>	Required Ac	tion	Date <u>Required</u>	<u>L</u>
Shider	Information P	equest	Before	VS.I.
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Distribution				

Human Services Building

Adrian, MI 49221

FAX: (517) 264-0790

Administration: (517) 264-5204 Nursing Division: (517) 264-5226

1040 S. Winter St., Suite 2328

Telephone number(s):

Environmental Health: (517) 264-5202

Lenawee County Health Department

ATTN Keith Slicler	
Company:	FROM: PAUL Nelson
FAX: (913) 236-0013	Date: 11/7/00
	No. of pages(Including cover sheet
REMARKS: Urgent For your review	Reply ASAP Please Comment
. Comments:	
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Please call if there are any problem	ms with this transmission!

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Lenawee County Health Department

******* REQUEST FOUNDER THE F	PREEDOM OF INFORMA	TTON ACT	
*****	*****	*****	**
Person making request for	records:		
Address:			
City:			
Your Signature:	SIGNATURE	Phone: ()	 -
****************	=======================================	- 美国建筑场外的各种基础基础的	==a
Record or Type of Informat	tion Requested:		
Name and Address of Reques			
			 -
			
I would like to receive th	e information by:		
Reason For Inquiry:			
******************			***
FOR OFFICE USE ONLY			
Requested records provided	on DATE:		
Comments:			
L.C.H.D. staff releasing re	ecords.		
Request/jb 03/94			



TECHLAW, INC.

OVERLAND PARK, KANSAS

Contact Report

Originator Sticke Keith Date 11-10-00 Time 1400
Made Call Received Call Meeting at TechLaw Meeting @
Person(s) Contacted (Organization) Share Horn (517) 263-216) Water Treatment Facility
TechLaw Personnel
Purpose of Contact To Determine / 6 Ather Well Log Information
Significant Topics Discussed Andrian is 3.5 NE of Wacker
- Sewes approx 25,000 people w/ 6500 connections
-Blend System drawing form Lake Andrian
surface water from Wolf Creck (2500 blend of well)
- 1 municipal well @ express 85 Rect
- Instalked 1929
- Screen a 150 Pt.
Action Items
Person Required Action Date Responsible Required
Distribution

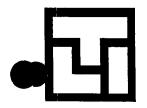


TECHLAW, INC.

OVERLAND PARK, KANSAS

Contact Report

Originator Slider Keith Date 11-7-00 Time
Made Call Received Call Meeting at TechLaw Meeting @
Person(s) Contacted (Organization)
TechLaw Personnel
Purpose of Contact Mike Berringer (517) 423 - 2107
Significant Topics Discussed Bernique will fox Will Logs a Location Mag
Aguifer - Adrian Drainage System
Will heads - 7
people Seeve - 7,500 people of 2100 connection
Well is a blended system, serving Tecomset only
There were no reported complaints of odors
or Deculiar taste.
Action Items
Person Required Action Date Responsible Required Action Required
Distribution



20 NORTH WACKER DRIVE, SUITE 1260, CHICAGO, IL 60606

PHONE: (312) 578-8900

FAX: (312) 578-8904

TECHLAW INC.

RZ2.R05704.01.ID.158

December 5, 2000

Mr. Thomas Manning U.S. Environmental Protection Agency Region 5, DW-8J 77 West Jackson Boulevard Chicago, Illinois 60604



Reference:

EPA Contract No.68-W-99-017; Work Assignment No. R05704; Multi Site Technical Document Review (Environmental Priorities Initiative (EPI) Assessments - Task 04); Wacker Silicones Corporation; Adrian, Michigan; EPA ID No. MID075400671; U.S. EPA Visual Site Inspection

Notification; Deliverable Task 04

Dear Mr. Manning:

Enclosed please find the Visual Site Inspection (VSI) Notification Letter and proposed Agenda and Information Needs List for the above-referenced facility. The VSI is scheduled for December 19, 2000.

Should you have any questions or require additional information, please feel free to contact me at 312-345-8938.

Sincerely.

Vohn Koehnen Regional Manager

Enclosure

cc:

F. Norling, EPA Region 5 RPO (w/out attach)

G. Phillips, EPA Region 5

W. Jordan/Central Files

M. Powers

Chicago Central Files

K. Slider



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

K.Slider -

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

D-8J

Mr. James Barancin Operations Manager Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221

Re: Visual Site Inspection (VSI)
Wacker Silicones Corporation
Adrian, Michigan
MID075400671

Dear Mr. Barancin:

The United States Environmental Protection Agency (U.S. EPA) Region 5 has requested TechLaw, Inc., U.S. EPA's RCRA Enforcement, Permitting and Assessment Contractor, to conduct a Preliminary Assessment/Visual Site Inspection (PA/VSI) at the Wacker Silicones Corporation facility. Under the 1984 Hazardous and Solid Waste Amendments (HSWA), a PA/VSI is required of the Wacker Silicones Corporation facility. The assessment requires identification and systematic review of all solid waste streams at the facility. The objective of this assessment is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the site which require further investigation. This analysis will provide information to establish priorities for subsequent remedial investigations.

An integral part of this assessment is a visual site inspection (VSI) of your facility to verify the location of all "solid waste management units" (SWMUs) and to make a cursory determination of their condition by visual observation. The VSI supplements and updates data gathered during a preliminary file review. During this site visit, no samples will be taken.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. This site visit is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of each SWMU are to be taken to document the condition of each unit at the facility and the waste management procedures used.

The VSI has been scheduled for December 19, 2000. The TechLaw inspection personnel may be accompanied by a U.S. EPA Region 5 or State of Michigan representative. Your cooperation in admitting and assisting them while on site is appreciated.

In preparation for the VSI, the inspection personnel are required to identify any potentially hazardous conditions likely to be encountered at the site during performance of the VSI and to prepare a safety plan that deals with the hazards, if necessary. You will be contacted by a TechLaw representative by telephone in the near future to obtain specific information on the level(s) of personal protection required and materials handled in each area of your facility.

A copy of the proposed VSI agenda (Attachment I) is enclosed. Please review and gather the information requested in Attachment II, the information needs list, prior to the VSI. Should you have questions regarding this letter, please contact me at (312) 886-0977 or Mr. Keith Slider of TechLaw at (913)236-0006. Also, please contact me if you would like to request a copy of the PA/VSI report when completed, excluding Section IV (Conclusions and Suggested Further Actions).

Sincerely,

Gerald Phillips, EPA Region 5 Corrective Action Process Manager

Enclosure

cc: Inspector, MDEQ

ATTACHMENT I

PRELIMINARY ASSESSMENT/VISUAL SITE INSPECTION VISUAL SITE INSPECTION AGENDA

FACILITY: Wacker Silicones Corporation

3301 Sutton Road

Adrian, Michigan 49221

EPA I.D. No.: MID075400671

FACILITY CONTACT: Mr. James Barancin

Operations Manager

DATE OF INSPECTION: December 19, 2000

<u>PERSONNEL</u>: Keith Slider, TechLaw

Michael Powers, TechLaw

State Inspector, State of Michigan U.S. EPA Inspector, U.S. EPA Region 5

PURPOSE OF INSPECTION:

The Hazardous and Solid Waste Amendments of 1984 (HSWA) broaden the Scope of the Environmental Protection Agency's (EPA's) authority under the Resource Conservation and Recovery Act (RCRA) by requiring corrective action for releases of hazardous wastes and constituents at facilities that manage hazardous wastes. The RCRA Facility Assessment (RFA) is conducted to evaluate the potential for releases to the environment and the need for corrective action. The Preliminary Assessment/Visual Site Inspection is a form of a RFA.

The RFA includes a desk-top preliminary assessment (PA) of available file information, a visual site inspection (VSI) of the facility and, if necessary, a sampling visit. Based on the review of available data for this facility, a visual site inspection (VSI) has been determined to be necessary. The purpose of the VSI is to:

1. Survey the site for hydrologic, geologic, and surficial features.

DECEMBER 19, 2000

- 2. Identify solid waste management units (SWMUs) and other areas of concern, documenting and photographing all SWMUs and other areas of concern.
- 3. Review site information with facility representatives.

INSPECTION ORGANIZATION

TechLaw personnel will form a two-member team to perform a one-day inspection tour. The team, in general, will inspect waste generation and disposal areas such as container storage areas, surface impoundments, waste piles and release pathways for release of wastes into the environment. An interview with the facility staff will be performed to develop a better understanding of past waste disposal practices. Pertinent geologic information consisting of well logs, USGS topographic maps, plat and zoning maps and surrounding land use patterns will be reviewed. The team will concentrate on developing a better understanding of the vertical and horizontal alignments of any surface impoundments, container storage areas, and any other waste generation, treatment, storage and disposal facilities. A review of the regional hydrogeology and site-specific data will be performed to make an assessment of depth to groundwater and its flow direction in the proximity of the Solid Waste Management Units.

The overall rationale of this inspection plan is to enable the team to trace waste streams from process through treatment and disposal. Some adjustments to the agenda will more than likely be necessary to accommodate facility staff, geographical location of units and/or operational constraints.

Preliminary information needs have been submitted as Attachment II to aid Kafko International in preparing for the site visit. These issues will be resolved in an introductory meeting during the VSI. A more efficient agenda may be arranged at that time to ensure that all SWMUs identified will be inspected.

DECEMBER 19, 2000

PROPOSED INSPECTION SCHEDULE

December 19, 2000: 9:00 a.m. - 4:00 p.m. (0900-1600)

INTRODUCTORY MEETING

Inspection Team will meet with Wacker Silicones Corporation personnel to discuss:

- Purpose of visit;
- Agenda;
- Health and safety considerations;
- Transportation arrangements (if appropriate);
- Facility history and operations; and,
- Additional information needs pertaining to the SWMUs identified during the PA.

INSPECTION TOUR OF POTENTIAL SWMUS

The inspection tour will consist of a visual inspection of the identified SWMUs. Photographs of these units and areas will be taken. The inspection tour schedule will be discussed and agreed upon during the introductory meeting and discussions.

The following is a list of potential SWMUs identified during

DECEMBER 19, 2000

the file review. These and all other SWMUs and areas of concern identified while at the site will be inspected.

DECEMBER 19, 2000

LIST OF POTENTIAL SWMUS AND AOCS

SWMU_NO.	LIST OF POTENTIAL SWMUS		
1.	Tank T-101, Former 25,000 gallon AST		
2.	Tank T-105, Former 25,000 gallon AST		
3.	Tank T-108, Former 25,000 gallon AST		
4.	Hazardous Waste Pad #1		
5.	Tank T-417, Current 20,000 gallon AST		
6.	Tank T-418, Current 20,000 gallon AST		
7.	Tank T-419, Current 20,000 gallon AST		
8.	HiBay Sump Pump		
9.	RTV Sump Pumps (2)		
10.	Tank T-126A		
11.	Tank T-126B		
12.	Tank T-127A		
13.	Tank T-127B		
14.	API TK (Chemical Sewer)		
15.	Equalization Pond (Chemical Sewer		
16.	Chemical Waste Pond - North		
	Chemical Waste Pond - South		
18.	SPCC Pond		
19.	NH Pond		
20.	Hazardous Waste Pad #2		
	Evaporation and Settling Pond		
22.	Old Drum Burial		
23.	RX Bed Burial		
AOC	LIST OF POTENTIAL AOCS		
1	Francisco and Catalian Danie		
1.	Evaporation and Settling Pond Old Drum Burial Area		
4.	ord brain parrar Wieg		

WRAP-UP MEETING

Inspection Team will meet with Wacker Silicones Corporation personnel to conclude day's activities.

DECEMBER 19, 2000

ATTACHMENT II

PRELIMINARY INFORMATION NEEDS FOR RCRA FACILITY ASSESSMENT

- 1. Identify past and present SWMUs and AOCs which have not been listed elsewhere in the VSI Agenda. Include a brief description of wastes managed in these units and the unit's period of operation. Units to identify include, but are not limited to, the following:
 - Above ground and underground waste storage tanks.
 - Abandoned storage tanks.
 - Waste storage units for solid and hazardous wastes which fall under the 90-day exemption from RCRA.
 - All waste handling areas and associated activities including loading zones, transfer areas, and waste accumulation areas.
 - All process and spill containment areas and sumps.
- 2. Submit information relative to the history of the facility including former owners, site uses, manufacturing practices used, wastes generated, and existing buildings and/or structures.
- 3. Provide a list of air pollution control devices utilized at the facility. Describe, for each device, its permit history and current regulatory status.
- 4. Provide facility maps, including all historical topographic maps and aerial photographs, which identify the locations of all plant operations and the SWMUs listed in the VSI Agenda.
- Provide a description of the past and current sanitary and process sewage treatment systems utilized by the facility. Include diagrams, process rates, and dates of operation.

DECEMBER 19, 2000

- 6. Provide copies of all current environmental permits, and provide information on the history of each permit.
- 7. Provide all ground water monitoring data obtained to date (if applicable) from ground water monitoring wells located on-site.
- 8. Provide information regarding the status of the facility. Is the facility closed or operating?
- 9. Provide status of SWMUs and AOCs identified in the VSI Agenda (see List of Potential SWMUs and AOCs) and any other waste management units that exist or have existed in the past and have been removed or taken out of use.
- 10. Provide the following information for each of the SWMUs and AOCs at the facility:
 - Location
 - Description of units (i.e. dimensions, materials of construction, etc.)
 - Period of operation
 - Wastes managed
 - Release controls
 - History of any releases
- 11. Provide a description and identify the location of all past and present underground storage tanks at the facility.

Slider, Keith

From:

DAVID ANDERSON [daveannem@prodigy.net]

Sent:

Tuesday, December 05, 2000 3:01 PM

To:

Slider, Keith

Subject: Re: Wacker a.k.a . Voker

It is in the email text below (Sullivan). That is who we should deal with from this point forward. Call me at 847-234-4823 if I don't understand your question. A.

---- Original Message ----From: Slider, Keith
To: 'DAVID ANDERSON'

Sent: Tuesday, December 05, 2000 10:37 AM

Subject: RE: Wacker a.k.a . Voker

Hey Anne.

Thanks for e-mailing me; I was about to call you. We're on for the 19th; I misplaced the new contact name. Can you forward me that.

Thanks.

----Original Message----

From: DAVID ANDERSON [mailto:daveannem@prodigy.net]

Sent: Tuesday, December 05, 2000 2:28 PM **To:** Powers, Mike; <u>kslider@TechLawInc.com</u>

Subject: Wacker a.k.a . Voker

The VSI date is scheduled for Tuesday Dec 19th, but I have not heard back with a solid confirmation. I did not set a start time since I didn't know if you were going in the night before or not.

The facility contact is Robert Sullivan at 517-264-8361. He thought this was to be a compliance inspection, but he remembers at RFA site visit at a plant he used to work at, so hopefully he understands now. His fax is 517-264-8293. He would like the VSI notification faxed to him when it is ready. Keith, I also told him you might need to call him re: the health and safety checklist so he is expecting that call.

There are no special security requirements - just a routine sign in procedure.

They require safety glasses, safety shoes, no contact lenses. Sorry, Mike,but NO SKIRTS allowed. There are no areas that require respiratory protection.

Good luck, have fun and HEY - let's be careful out there.



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

CONFIRMATION / REQUEST FOR DISCLOSURE OF DEQ RECORDS

Under The Freedom Of Information Act
(This information is required under Authority of Act 442, P. A. 1976 as amended in order to request public records information)

ALL INFORMATION MUST BE TYPED OR PRINTED EXCEPT FOR WRITTEN SIGNATURES			
mpany Namę (If Applicable) Or Organization (If Any)	Business Phone #		
	Area Code 8/2) 578-8900		
Boundary Inc.	Daytime Phone #		
Requester's Name Nichael Powers	Area Code ()		
Address (Street And Number)	Home Phone #		
20 North Wacker Drive	Area Code () ~~		
City a L.	Social Security Or Federal Id No.		
Chicago			
I wish to examine receive a copy of the following materials: (Provide detailed descriptions of materials being requested and specify number of copies needed of each) (Attach additional sheets if necessary)			
ERD FOIA REQUEST NO. 5545			
Walacker Silicone Corporation			
3301 Sutton Rd.			
Adnan, MI 49221			
Lenawee County			
	0		
I hereby request a waiver or reduction in fees as provided in	Section 4(1) of F.O.I.A. because I an	n indigent or receive public assistance. (Attach proof)	
I understand the DEQ may take 10 additional business days, if necessary, to fill my request due to the diverse locations or large volume of the material. I erstand that if it is determined that some or all of the materials which I have requested to review or have copied may not be disclosed, I will receive a latent denial including the reason for denial and explaining my right to appeal. I also understand that I may be charged with costs associated with this request. Signature of Requester (If available) Date			
Please submit this completed confirmation / re-	quest to:		
ENVIRONMENTAL RESPONSE DIVISOIN	TELI	EPHONE NO.: (517) 373 — 9837	
MICHIGAN DEPARTMENT ENVIRONMENTAL QUALITY FAX NO.: (517) 373 — 2637			
P.O. BOX 30426			
LANSING MI 48909-7926			
If you have any questions regarding this re-	quest, please contact:		
Environmental Response Division-Lansing Office Site Reclamation			
DEQ Employee Name Telephone No.			
Nancy Steffen	_	Area Code (517)373— 9540	
Date this request was completed:	FOR DEPARTMENT OF	ENVIRONMENTAL QUALITY USE ONLY	
	! !		
November 3, 2000 This section to be completed by the DEQ division/office employee fulfilling this request			
•	Detail of Charges Labor \$	INDEX 45602	
-THIS IS NOT A BILL-	l abor	PCA 2 (3 17 6	
You will be invoiced	Labor \$	31375 AGENCY OBJECT	
	Copying \$	8857	
separately for any	,	PROJECT	
charges listed.	Mailing \$		
onargoo notou.	1 1/2 1/2	PHASE	
	1 TOTAL \$ / 1/7 / 1/0/		

EQP 1046E (Rev 10/97)



September 26, 2000

Robert Sullivan Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221

Dear Mr. Sullivan:

Congratulations! You and the employees of Wacker Silicones Corporation's Sutton Road facility have successfully achieved Wildlife Habitat Council (WHC) certification for the development of a successful wildlife management program. Your commitment to a long-term program that provides and enhances wildlife habitat was quite clear from your certification application materials.

The efforts of the employees at Sutton Road towards beginning and maintaining a wildlife management program have been exceptional. The Certification Review Committee made special note of the amount of work that has been completed in a short period of time. In addition, the review committee was impressed with the extra effort put forth by the team to seek out additional education and training on wildlife species and wildlife management. The review committee was also extremely pleased to see the partnerships that have been created early on in your program. Working with the schools, the Conservation District and the Nature Conservation will help Wacker Silicones Corporation create a quality Wildlife at Work program that address the needs of the local wildlife and the local community.

WHC is pleased to see numerous future projects being investigated at the facility, please contact WHC biologist, Rob Pauline if he can be of service to the team. When looking for ways to further expand the program, consider establishing a Corporate Lands for Learning (CLL) program. The early partnership with the local schools could be used as a springboard to create environmental education activities on site that match with the needs of the teachers and the interests of the students. The nature trail already established will also be a tremendous asset if a CLL program is established.

In celebration of a job well done, we invite you to take part in the first public recognition of your efforts; the Annual Symposium and Awards Banquet on November 6 and 7 in Baltimore, Maryland. A great way to reward team members for their continued hard work and dedication is to have them attend the symposium. (In fact, the Wacker Silicones Corporation can reserve a table at the symposium awards banquet at the rates quoted on the enclosed registration form.) We will hold a special reception in honor of certified and recertified sites from 5:30 to 6:30 on Tuesday, November 7. Prior to this reception, your site's representatives will be presented with their certificates and have a photograph taken with the WHC President or Chairman of the Board. Please see the

enclosed photo session information sheet to find the time assigned to your site for this picture. Later that evening, at the awards banquet, a multimedia presentation will highlight the projects at the certified and recertified sites, and the coveted Community Partner of the Year, Rookie of the Year and Corporate Habitat of the Year awards will be presented.

In addition to the award ceremony, the Wacker Silicones Corporation's certified efforts will be recognized through press releases and inclusion in WHC's Registry of Certified & Internationally Accredited Corporate Wildlife Habitat Programs. Drafts of the registry entry and the press release will be sent to your site media contact by WHC's communication staff for review and approval soon.

By maintaining the quality of the wildlife management program, the Sutton Road facility will be eligible for recertification in two years, by July 31, 2002. Please, in the meantime, continue to monitor your projects by keeping logs and data sheets, as this information will be required for recertification. Also, photos and slides that record your progress will be required. Submitting this updated documentation in 2002 to supplement your 2000 application materials will allow us to keep informed on the progress of your efforts. If recertification is achieved in 2002 and meets certain criteria (available from WHC), your site will be switched to a three-year recertification rotation. This and other updates on the certification program will be outlined during a presentation at the WHC Symposium in November.

Congratulations again, and thank you for your participation in WHC's Corporate Wildlife Habitat Certification/International Accreditation Program. Employees at the Sutton Road facility should take pride in knowing that they have made an important contribution to wildlife conservation.

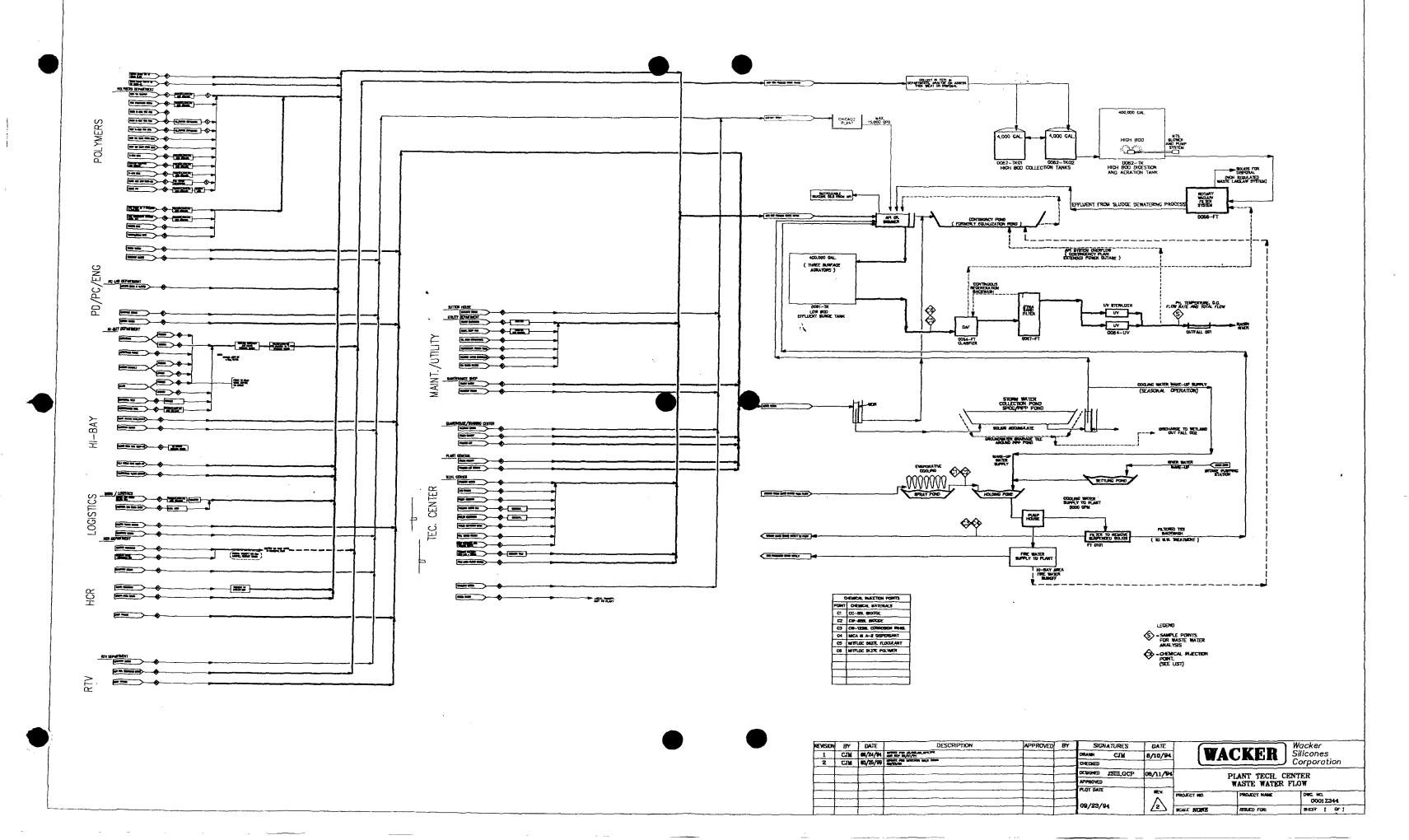
Sincerely,

William W. Howard

William W. Howard

President

/BAK





JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment" HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us
RUSSELL J. HARDING, Director

August 11, 2000

SURFACE WATER QUALITY DIVISION

REPLY TO:

KNAPPS CENTRE
PO BOX 30273
LANSING MI 48909-7773

CERTIFIED MAIL -- 7099 3400 0001 0739 4040

Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221

Dear Sir or Madam:

SUBJECT: NPDES Permit No. MI0026034 -- Wacker Silicones Corp, 3301 Sutton Road, Adrian

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of Environmental Quality and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Mr. Linn Duling, District Supervisor Jackson District Office, SWQD, DEQ 301 East Louis Glick Highway Jackson, Michigan 49201 Telephone: 517-780-7690

Sincerely,

William E. McCrackengs William E. McCracken, P.E. Chief, Permits Section

Chief, Permits Section

Surface Water Quality Division

517-373-8088

Attachment: Permit cc: EPA-Region 5

208 Agency - Region II Planning Commission

Mr. Linn Duling, Jackson District Supervisor, SWQD (2) (Supersedes Storm Water COC MIR23J014)

PCS Unit, SWQD (Supersedes Storm Water COC MIR23J014)

Files

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18,

Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221

is authorized to discharge from the facility located at

3301 Sutton Road Adrian, Michigan 49221

designated as Wacker Silicones Corp

to the receiving water named the River Raisin in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit takes effect on October 1, 2000. Any person who is aggrieved by this permit may file a sworn petition with the Office of Administrative Hearings of the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department may reject any petition filed more than 60 days after issuance as being untimely. If any condition of this permit is administratively challenged, the entire challenged permit is stayed and the previous permit will remain in effect until the Department takes final action after the Administrative Hearing.

This permit and the authorization to discharge shall expire at midnight, October 1, 2004. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information and forms as are required by the Michigan Department of Environmental Quality to the Jackson District Supervisor of the Surface Water Quality Division by April 1, 2004.

In accordance with Section 324.3118 of the Michigan Act, the permittee shall make payment of a \$200.00 annual storm water fee to the Department, which shall be postmarked no later than March 15 of each year.

This permit is based on a complete application submitted on August 2, 1999 as amended through April 17, 2000. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede NPDES Permit No. MI0026034, expiring October 1, 1999, and Certificate of Coverage No. MIR23J014, issued December 5, 1994, which is hereby revoked upon the effective date of this permit.

Issued August 8, 2000

William E. McCracken Chief, Permits Section

Surface Water Quality Division

uin & M. Carle

Permit No. MI0026034 Page 2 of 21

PART I

Section A. Effluent Limitations And Monitoring Requirements

1. Final Effluent Limitations, Monitoring Point 001A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of two hundred fifty thousand gallons per day of treated process wastewater, sanitary wastewater, noncontact cooling water and storm water from Monitoring Point 001A through Outfall 001 to the River Raisin. Such discharge shall be limited and monitored by the permittee as specified below.

		um Limits ity or Load			num Limits or Concentr		Frequency	Sample
<u>Parameter</u>	Monthly	<u>Daily</u>	<u>Units</u>	Monthly	<u>Daily</u>	Units	of Analysis	
Flow	(report)	(report)	MGD			~	Daily	Report Total Daily Flow
Carbonaceous Biochemical Ox	ygen Demand	(CBOD ₅)						
May I through Sept 30	(report)	18	lbs/day	(report)	20	mg/l	Weekly	24-Hr Composite
Oct 1 through April 30	(report)	(report)	lbs/day	(report)	(report)	mg/l	Weekly	24-Hr Composite
Biochemical Oxygen Demand	(BODs) - See F	Part I.A.1.e.						•
Diochemical Oxygon Domaia	12	28	lbs/day				Weekly	24-Hr Composite
Ammonia Nitrogen (as N)								
y 1 through Sept 30	(report)	2.8	lbs/day	(report)	3.0	mg/l	Weekly	24-Hr Composite
1 through April 30	(report)	(report)	lbs/day	(report)	(report)	mg/l	Weekly	24-Hr Composite
Total Suspended Solids	18	53	lbs/day	30	45	mg/l	Weekly	24-Hr Composite
Total Dissolved Solids				(report)	(report)	mg/l	Weekly	24-Hr Composite
Total Phosphorus (as P)				(report)		mg/l	2 x/month	24-Hr Composite
Fecal Coliform Bacteria				200	400 c	ts/100 ml	Weekly	Grab
Temperature				(report)	(report)	°F	Weekly	Reading
Outfall Observation	(report)						Daily	Visual
					Maximum		٠	
pH				<u>Daily</u> 6.5	<u>Daily</u> 9.0	S.U.	Continuous	Grab
Dissolved Oxygen				4.0		mg/l	Weekly	Grab

a. Narrative Standard

b. Monitoring Location

Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the River Raisin.

The receiving water shall contain no unnatural turbidity, color, oil films, floating solids, foams, settleable solids, or deposits as a result of this discharge.

Section A. Effluent Limitations And Monitoring Requirements

c. Outfall Observation

Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits) shall be reported within 24 hours to the Jackson District Supervisor of the Surface Water Quality Division followed with a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.

d. Water Treatment Additives

This permit does not authorize the discharge of water additives without approval from the Department. Water additives include any material that is added to water used at the facility or to a wastewater generated by the facility to condition or treat the water. In the event a permittee proposes to discharge water additives, the permittee shall submit a request to the Department for approval. See Part I.A.2. for information on requesting water treatment additive use.

e. Biochemical Oxygen Demand (BOD₅)

Upon receipt of written approval from the Jackson District Supervisor of the Surface Water Quality Division and consistent with such approval, the permittee may demonstrate compliance with the BOD₅ limitation by conducting a Carbonaceous Biochemical Oxygen Demand (CBOD₅) test and multiplying the result by an approved factor to establish an equivalent BOD₅ result. Significant changes in plant operations may require a recalculation or verification of the conversion factor at the discretion of the Jackson District Supervisor.

Section A. Effluent Limitations And Monitoring Requirements

2. Request for Discharge of Water Treatment Additives

Requests for the discharge of water treatment additives shall be sent to the Great Lakes and Environmental Assessment Section, Surface Water Quality Division, Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909, with a copy of the request to the Jackson District Supervisor. Instructions may be obtained via the internet at http://www.deq.state.mi.us/swq/gleas/docs/wta/wtamemo.htm to submit a request electronically. Written approval from the Department to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. Additional monitoring and reporting may be required as a condition for the approval to discharge the additive.

A request to discharge water additives shall include all of the following water additive usage and discharge information:

- Material Safety Data Sheet;
- b. the proposed water additive discharge concentration;
- c. the discharge frequency (i.e., number of hours per day and number of days per year);
- d. the monitoring point from which the product is to be discharged;
- e. the type of removal treatment, if any, that the water additive receives prior to discharge;
- f. product function (i.e. microbiocide, flocculant, etc.);
- g. a 48-hour LC₅₀ or EC₅₀ for a North American freshwater planktonic crustacean (either *Ceriodaphnia sp., Daphnia sp., or Simocephalus sp.*); and
- h. the results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2) of the Water Quality Standards.

Prior to submitting the request, the permittee may contact the Great Lakes and Environmental Assessment Section by telephone at 517-335-4184 or via the internet at ftp://ftp.deq.state.mi.us/pub/swq/rule57/WTA/WTAList.doc to determine if the Department has the product toxicity data required by items g and h above. If the Department has the data, the permittee will not need to submit product toxicity data.

3. Total Dissolved Solids Minimization Plan Report

On or before April 1, 2004 and with the application for reissuance, the permittee shall submit to the Jackson District Supervisor of the Surface Water Quality Division a report evaluating and updating the permittee's June, 1999 Total Dissolved Solids (TDS) Minimization Plan. The Total Dissolved Solids Minimization Plan Report shall, as a minimum, include: 1) identification of the sources of TDS; 2) evaluations of measures taken by the permittee to reduce discharges of TDS since submittal of the plan; 3) any proposed measures to be taken by the premittee to reduce discharges of TDS, 4) a redetermination of the feasibility of TDS reduction efforts previously considered by the permittee as not cost effective, energy efficient or environmentally sound; and 5) an estimate of future TDS discharges from outfall 001.

Section A. Effluent Limitations And Monitoring Requirements

4. BAT Monitoring

As a condition of this permit, the permittee shall monitor the discharge from monitoring point 001A for the constituents listed below using approved test procedures established by the federal regulations "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," 40 CFR Part 136. This monitoring is designed to determine whether these constituents are discharged; and, therefore, would require effluent limitations under the federal regulations entitled "Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) Category Effluent Limitations Guidelines," 40 CFR Part 414. For the Acid Compounds, Base/Neutral Compounds and Other Toxic Pollutants parameters, 24-hour composite samples shall be taken at the frequency of once per year for the life of this permit. Grab samples shall be taken for the Volatile Compounds parameters at the frequency of once per year for the life of this permit. The results of such monitoring shall be submitted to the Jackson District Supervisor of the Surface Water Quality Division on or before March 1st of each year. If, upon review of the analysis, it is determined that any of the materials or constituents require limiting in accordance with applicable water quality or technology standards, the permit may then be modified by the Michigan Department of Environmental Quality in accordance with applicable laws and rules. The reissuance of this permit does not authorize the discharge in quantities exceeding the levels established in 40 CFR Part 414 or the Water Quality Standards for any of the constituents listed below:

Volatile Compounds

acrylonitrile	benzene	carbon tetrachloride
chlorobenzene	chloroethane	chloroform
1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethylene
1,2-dichloropropane	1,3-dichloropropylene	ethylbenzene
methyl chloride	methylene chloride	tetrachloroethylene
toluene	1,2-trans-dichloroethylene	trichloroethylene
1,1,1-trichloroethane	1,1,2-trichloroethane	vinyl chloride

Acid Compounds

2,4-dimethylphenol	4,6-dinitro-o-cresol	2,4-dinitrophenol
2-nitrophenol	4-nitrophenol	phenol
2-chlorophenol	2 4-dichlorophenol	

Base/Neutral Compounds

acenaphthene	acenaphthylene	anthracene
benzo(a)anthracene	3,4-benzofluoranthene	benzo(k)fluoranthene
benzo(a)pyrene	bis(2-ethylhexyl)phthalate	chrysene
di-n-butyl phthalate	1,2-dichlorobenzene	1,3-dichlorobenzene
1,4-dichlorobenzene	diethyl phthalate	fluoranthene
fluorene	hexachlorobenzene	hexachlorobutadiene
hexachloroethane	naphthalene	nitrobenzene
phenanthrene	pyrene	1,2,4-trichlorobenzene
2,4-dinitrotoluene	2,6-dinitrotoluene	dimethyl phthalate

Other Toxic Pollutants

total chromium	total copper	total cyanide
total lead	total nickel	total zinc

Section A. Effluent Limitations And Monitoring Requirements

5. Storm Water Pollution Prevention Plan

The permittee is authorized to discharge storm water associated with industrial activities as defined in 40 CFR 122.26(b)(14). These storm water discharges shall be controlled in accordance with the requirements of this special condition. The permittee has developed and implemented a Storm Water Pollution Prevention Plan (plan). The permittee shall continue implementation of the plan for maximum control of significant materials (as defined in Part I.A.5.i.) so that storm water discharges will not cause a violation of the Water Quality Standards. The plan shall be routinely reviewed and updated in accordance with the requirements of this Special Condition.

Source Identification

To identify potential sources of significant materials that can enter storm water and subsequently be discharged from the facility, the plan shall, at a minimum, include the following:

- A site map identifying the following: buildings and other permanent structures; storage or disposal areas for significant materials; secondary containment structures; storm water discharge outfalls (numbered for reference); location of storm water inlets contributing to each outfall; location of NPDES permitted discharges other than storm water; outlines of the drainage areas contributing to each outfall; structural runoff controls or storm water treatment facilities; areas of vegetation; areas of exposed and/or erodible soils; impervious surfaces (roofs, asphalt, concrete); name and location of receiving water(s); and areas of known or suspected impacts on surface waters as designated under Part 201 (Environmental Response) of the Michigan Act.
- 2) A list of all significant materials that could enter storm water. For each material listed, the plan shall include the following descriptions:
- a) ways in which each type of material has been or has reasonable potential to become exposed to storm water (e.g., spillage during handling; leaks from pipes, pumps, and vessels; contact with storage piles; waste handling and disposal; deposits from dust or overspray, etc.);
- b) identification of the outfall or outfalls through which the material may be discharged if released;
- c) a listing of oil and materials on the Critical Materials Register that have been spilled or leaked over the three (3) years prior to the completion of the plan; the date, volume and exact location of release; and the action taken to clean up the material and/or prevent exposure to storm water runoff or contamination of surface waters of the state. Any release that occurs after the plan has been developed shall be controlled in accordance with the plan and is cause for the plan to be updated as appropriate within 14 calendar days of obtaining knowledge of the spill or loss; and
- d) a summary of existing storm water discharge sampling data (if available) describing pollutants in storm water discharges associated with industrial activity at the facility. This summary shall be accompanied by a description of the suspected source(s) of the pollutants detected.
- An evaluation of the reasonable potential for contribution of significant materials to runoff from at least the following areas or activities: loading, unloading, and other material handling operations; outdoor storage, including secondary containment structures; outdoor manufacturing or processing activities; significant dust or particulate generating processes; discharge from vents, stacks and air emission controls; on-site waste disposal practices; maintenance and cleaning of vehicles, machines and equipment; sites of exposed and/or erodible soil; sites of environmental contamination listed under Part 201 (Environmental Response) of the Michigan Act; areas of significant material residue; and other areas where storm water may contact significant materials.

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PART I

Section A. Effluent Limitations And Monitoring Requirements

b. Preventive Measures and Source Controls, Non-Structural To prevent significant materials from contacting storm water at the source, the plan shall, at a minimum, include the following non-structural controls:

- 1) Description of a program for routine preventive maintenance which includes requirements for inspection and maintenance of storm water management and control devices (e.g., cleaning of oil/water separators and catch basins) as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters. A log of the inspection and corrective actions shall be maintained on file by the permittee, and shall be retained in accordance with Part I.A.5.f.
- A schedule for comprehensive site inspection to include visual inspection of equipment, plant areas, and structural pollution prevention and treatment controls to be performed at least once every six (6) months. A report of the results of the comprehensive site inspection shall be prepared and retained in accordance with Part I.A.5.f. The report shall identify any incidents of non-compliance with the plan. If there are no reportable incidents of non-compliance, the report shall contain a certification that the facility is in compliance with this plan.
- 3) A description of good housekeeping procedures to maintain a clean, orderly facility.
- A description of material handling procedures and storage requirements for significant materials. Equipment and procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The procedures shall identify measures to prevent the spilled materials from being discharged into storm water. The plan may include, by reference, requirements of either a Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (Rules 323.1151 through 323.1169 of the Michigan Administrative Code); a Hazardous Waste Contingency Plan prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the Michigan Act; or a Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112.
- 5) Identification of areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall also identify measures used to control soil erosion and sedimentation.
- 6) A description of employee training programs which will be implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the plan. The plan shall identify periodic dates for such training.
- 7) Identification of significant materials expected to be present in storm water discharges following implementation of non-structural preventative measures and source controls.
- c. Structural Controls for Prevention and Treatment Where implementation of the measures required by Part I.A.5.b. does not control storm water discharges in accordance with Water Quality Standards in Part I.A.5.h., the plan shall provide a description of the location, function, and design criteria of structural controls for prevention and treatment. Structural controls may be necessary:
 - 1) to prevent uncontaminated storm water from contacting or being contacted by significant materials, and/or
 - 2) if preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating storm water. Structural controls shall be used to treat, divert, isolate, recycle, reuse or otherwise manage storm water in a manner that reduces the level of significant materials in the storm water and provides compliance with the Water Quality Standards in accordance with Part I.A.5.h.
- d. Keeping Plans Current
 - 1) The permittee shall review the plan on or before June 5 of each year, and maintain written summaries of the reviews. Based on the review, the permittee shall amend the plan as needed to ensure continued compliance with the terms and conditions of this permit.

Section A. Effluent Limitations And Monitoring Requirements

- The plan shall also be updated or amended whenever changes or spills at the facility increase or have the potential to increase the exposure of significant materials to storm water, or when the plan is determined by the permittee or the Jackson District Supervisor of the Surface Water Quality Division to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Updates based on increased activity at the facility shall include a description of how the permittee intends to control any new sources of significant materials or respond to and prevent spills in accordance with the requirements of Parts I.A.5.a., I.A.5.b., and I.A.5.c.
- 3) The Jackson District Supervisor or authorized representative may notify the permittee at any time that the plan does not meet minimum requirements. Such notification shall identify why the plan does not meet minimum requirements. The permittee shall make the required changes to the plan within 30 days after such notification from the Jackson District Supervisor or authorized representative, and shall submit to the Jackson District Supervisor a written certification that the requested changes have been made.
- e. Certified Storm Water Operator Update

If the certified operator has changed or an additional certified storm water operator is added, the permittee shall provide the name and certification number of the new operator to the Jackson District Supervisor. The new operator shall review and sign the plan.

- f. Signature and Plan Review
 - 1) The plan shall be signed by the certified storm water operator and by either the permittee or an authorized representative in accordance with 40 CFR 122.22. The plan shall be retained on site of the facility that generates the storm water discharge.
 - 2) The permittee shall make plans, reports, log books, runoff quality data, and supporting documents available upon request to the Jackson District Supervisor of the Surface Water Quality Division or authorized representative.
- g. Record Keeping

The permittee shall maintain records of all inspection and maintenance activities. Records shall also be kept describing incidents such as spills or other discharges that can affect the quality of storm water runoff. All such records shall be retained for three (3) years.

- h. Water Quality Standards
 - At the time of discharge, there shall be no violation of the Water Quality Standards in the receiving waters as a result of this discharge. This requirement includes, but is not limited to, the following conditions:
 - 1) In accordance with Rule 323.1050 of the Water Quality Standards, the receiving waters shall not have any of the following unnatural physical properties in quantities which are or may become injurious to any designated use: unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge.
 - 2) Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported within 24 hours to the Jackson District Supervisor of the Surface Water Quality Division followed with a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.
- i. Significant Materials

Significant Materials means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; salt; solvents; detergents; plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); any material on the Critical Materials Register pursuant to Section 3111 of the Michigan Act; Hazardous Wastes as defined in Part 111 of the Michigan Act; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Section A. Effluent Limitations And Monitoring Requirements

prohibition of Non-storm Water Discharges
Discharges of material other than storm water shall be in compliance with an NPDES permit issued for the discharge. Storm water shall be defined to include the following non-storm water discharges provided pollution prevention controls for the non-storm water component are identified in the plan: discharges from fire hydrant flushing, potable water sources including water line flushing, fire system test water, irrigation drainage, lawn watering, routine building wash down which does not use detergents or other compounds, pavement wash water where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material have been removed) and where detergents are not used, air conditioning condensate, springs, uncontaminated groundwater, and foundation or footing drains where flows are not contaminated with process materials such as solvents.

Discharges from fire fighting activities are authorized by this permit, but do not have to be identified in the plan.

Preventing Pollution is the Best Solution

The Michigan Department of Environmental Quality (DEQ) encourages you to consider pollution prevention alternatives. In some cases pollution prevention may allow you to avoid the need to discharge pollutants which would otherwise require permit limitations -- or even avoid the need for permits altogether! Pollution prevention can:

☑ Save Money

☑ Reduce Waste

☑ Aid Permit Compliance

☑ Protect Our Environment

☑ Improve Corporate Image

☑ Reduce Liability

The DEQ is helping Michigan's industries save money, reduce waste and protect our environment through pollution prevention. DEQ staff can provide pollution prevention assistance through telephone consultations, technical workshops and seminars, and informational publications. They can also put you directly in touch with local support networks and national pollution prevention resources. For more information, contact the Michigan Department of Environmental Quality, Environmental Assistance Division, at 1-800-662-9278 or visit our homepage at http://www.deq.state.mi.us

Section A. Definitions

This list of definitions may include terms not applicable to this permit.

Acute toxic unit (TU_a) means 100/LC₅₀ where the LC₅₀ is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Bioaccumulative chemical of concern (BCC) means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

Chronic toxic unit (TU_c) means 100/MATC or 100/IC₂₅, where the maximum acceptable toxicant concentration (MATC) and IC₂₅ are expressed as a percent effluent in the test medium.

Daily concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the quantification limit, regard that value as zero when calculating the daily concentration. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations (except for pH and dissolved oxygen). When required by the permit, report the maximum calculated daily concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the Discharge Monitoring Reports (DMRs).

For pH, report the maximum value of any <u>individual</u> sample taken during the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs and the minimum value of any <u>individual</u> sample taken during the month in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. For dissolved oxygen, report the minimum concentration of any <u>individual</u> sample in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

Department means the Michigan Department of Environmental Quality.

Detection Level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

District Supervisor: The Jackson District Supervisor of the Surface Water Quality Division is located at the Jackson District Office-DEQ, Surface Water Quality Division, 301 East Louis Glick Highway, Jackson, Michigan 49201-1556, telephone: 517-780-7690 (fax: 517-780-7855).

Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services mailing address is P.O. Box 30195, Lansing, Michigan 48909.

Drinking Water and Radiological Protection Division -- Environmental Health, Michigan Department of Environmental Quality mailing address is P.O. Box 30630, Lansing, Michigan 48909-8130.

EC₅₀ means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

Section A. Definitions

Fecal coliform bacteria monthly is the geometric mean of the samples collected in a calendar month (or 30 consecutive days). The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

Fecal coliform bacteria 7-day is the geometric mean of the samples collected in any 7-day period. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Flow Proportioned sample is a composite sample with the sample volume proportional to the effluent flow.

Grab sample is a single sample taken at neither a set time nor flow.

IC₂₅ means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations):

Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II. more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference.]

LC₅₀ means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Maximum acceptable toxicant concentration (MATC) means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

Monthly concentration is the sum of the daily concentrations determined during a reporting month (or 30 consecutive days) divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Monthly loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined in the reporting month (or 30 consecutive days). The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMRs.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Federal Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

Section A. Definitions

NOAEL means the highest tested dose or concentration of a substance that results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

Noncontact Cooling Water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

POTW is a publicly owned treatment works.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

7-day loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during any 7 consecutive days in a reporting month. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Tier I value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

Tier II value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

Toxicity Reduction Evaluation (TRE) means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Water Quality Standards means the Part 4 Water Quality Standards developed under Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

Section A. Definitions

- **3-Portion Composite sample** is a sample consisting of three equal volume grab samples collected at equal intervals over an 8-hour period.
- **24-Hour Composite sample** is a flow proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants). For parameters not specified in the permit or covered by the regulations, test procedures shall be submitted for approval to the Jackson District Supervisor of the Surface Water Quality Division.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Michigan Department of Environmental Quality.

Section C. Reporting Requirements

1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Jackson District Supervisor of the Surface Water Quality Division within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

2. Submittal Requirements for Self-Monitoring Data

Unless instructed on the effluent limits page to conduct "retained self-monitoring," the permittee shall submit self-monitoring data on the Environmental Protection Agency's Discharge Monitoring Report (DMR) forms (monthly summary information) and the Department's Daily Discharge Monitoring Report forms (daily information) to PCS-Data Entry, Surface Water Quality Division, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773, for each calendar month of the authorized discharge period(s). The forms shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

Alternative Daily Discharge Monitoring Report formats may be used if they provide equivalent reporting details and are approved by the Jackson District Supervisor of the Surface Water Quality Division. For information on electronic submittal of this information, contact the Jackson District Supervisor.

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Surface Water Quality Division, Michigan Department of Environmental Quality (in the case of mobile home parks, campgrounds, marinas and schools, to the staff of the Drinking Water and Radiological Protection Division -- Environmental Health, Michigan Department of Environmental Quality, or, in the case of hospitals, nursing homes and extended care facilities, to the staff of the Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services). Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Jackson District Supervisor of the Surface Water Quality Division, on or before <u>January 10th of each year</u>, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the Michigan Act or Rule 35 of the Mobile Home Park Commission Act (Act 96 of the Public Acts of 1987) for assurance of proper facility operation shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a <u>written</u> notification to the Jackson District Supervisor of the Surface Water Quality Division indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

Section C. Reporting Requirements

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Federal Act, Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

- a. 24-hour reporting Any noncompliance which may endanger health or the environment (including maximum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days.
- b. other reporting The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface waters or groundwaters of the state by calling the Jackson District Supervisor of the Surface Water Quality Division at 517-780-7690, or if the notice is provided after regular working hours call the Department of Environmental Quality's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-7660); and within ten (10) days of the spill or loss, the permittee shall submit to the DISTRICTNAME District Supervisor of the Surface Water Quality Division a full written explanation as to the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset, shall notify the Jackson District Supervisor of the Surface Water Quality Division by telephone within 24-hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

- a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. that the permitted wastewater treatment facility was, at the time, being properly operated; and
- c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

Section C. Reporting Requirements

9. Bypass Prohibition and Notification

- a. Bypass Prohibition Bypass is prohibited unless:
 - 1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and
 - 3) the permittee submitted notices as required under 9.b. or 9.c. below.
- b. Notice of Anticipated Bypass If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Jackson District Supervisor of the Surface Water Quality Division, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Jackson District Supervisor. The Jackson District Supervisor may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 9.a. above.
- c. Notice of Unanticipated Bypass The permittee shall submit notice to the Jackson District Supervisor of the Surface Water Quality Division of an unanticipated bypass by telephone at 517-780-7900 (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.
- d. Written Report of Bypass A written submission shall be provided within five (5) working days of commencing any bypass to the Jackson District Supervisor of the Surface Water Quality Division, and at additional times as directed by the Jackson District Supervisor. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Jackson District Supervisor.
- e. Bypass Not Exceeding Limitations The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.10. of this permit.

f. Definitions

- 1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Section C. Reporting Requirements

10. Notification of Changes in Discharge

The permittee shall notify the Jackson District Supervisor of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application submitted on August 2, 1999 as amended through April 17, 2000. Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

11. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Jackson District Supervisor of the Surface Water Quality Division by a) submission of an increased use request (application) and all information required under Rule 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.12.; and 4) the action or activity will not require notification pursuant to Part II.C.10. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

12. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of Rules 323.1098 and 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Jackson District Supervisor of the Surface Water Quality Division 30 days prior to the actual transfer of ownership or control.

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Michigan Department of Environmental Quality, as required by Sections 3110 and 4104 of the Michigan Act.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

- a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or
- b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Part 5 Rules (Rules 323.1151 through 323.1169 of the Michigan Administrative Code). For a Publicly Owned Treatment Work (POTW), these facilities shall be approved under Part 41 of the Michigan Act.

Section D. Management Responsibilities

7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit or other pollutants) removed from or resulting from treatment or control of wastewaters, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the Michigan Act, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Treatment System Closure

In the event that discharges from a treatment system are planned to be eliminated, the permittee shall submit a closure plan to the Jackson District Supervisor for approval. The closure plan shall include characterization of any wastewater and residuals which will remain on-site after the discharges are eliminated, along with disposal methods, proposed schedule, and any other relevant information as required by the Jackson District Supervisor. Closure activities involving waste treatment residuals shall be consistent with Part II.D.7. of this permit.

The permittee shall implement the closure activities in accordance with the approved plan. Any wastewater or residual disposal inconsistent with the approved plan shall be considered a violation of this permit. After proper closure of the treatment system, this permit may be terminated.

9. Right of Entry

The permittee shall allow the Michigan Department of Environmental Quality, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

- a. to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

10. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (Rule 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This site is a known source of groundwater contamination. This permit does not authorize any discharge to the groundwaters or venting of contaminated groundwaters to the surface waters, nor does it constitute a release of liability for any groundwater contamination at or around the site. The State reserves its rights to seek remedies to abate any groundwater contamination.

2. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground or marina shall be from the Drinking Water and Radiological Protection Division -- Environmental Health, Michigan Department of Environmental Quality. Approval for such construction for a hospital, nursing home or extended care facility shall be from the Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services upon request.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

Habitat Program Certification



Form C1

Corporate Wildlife Habitat Certification/ International Accreditation Program

Please include all information requested below for consideration for habitat program certification. Submit by July 31, 2000 with the application fee to the Wildlife Habitat Council, 1010 Wayne Avenue, Suite 920, Silver Spring, Maryland 20910, (301) 588-8994, Fax (301) 588-4629. Outstanding applications will be nominated for the "Rookie of the Year" award. Applications postmarked after July 31, 2000 will be assessed a \$100 late fee and will not be considered for the Rookie of

the Year award. WHC wildli understanding of the rationale for					ion of resul	lts, an
1. \$700 Application Fee (Chec				<u></u>	·	
2 Site Information. WACK	ER SILICONES CORPOR	ATION	•			
2. Ditt illion illianton.	Name and Facility/Site Name		appear on award	l certificate.)		
Robert Sullivan	·			y Affairs &	Product	Safet
Site Contact or Wildlife Team Lead	er	Title and Depa	artment			
517-264-8361	517-264-829	3		van@wackers	ilicones	.com
Telephone	Fax		E-mail			
3301 Sutton Road, Adri		,				
Mailing Address (Include City, Sta		0.1		A71		
160	240	31		471	CO.	
Site Wildlife Acres	Total Site Acres	Number of Employee Involved in the Prog		Total Number of Employees	or Site	
3. Attach a brief narrative of information to allow WHC to a	your program that sums idequately evaluate your pla	up your efforts in le ans and efforts.	ess than a pag	ge. Also, attac	h the follo	wing
jectives, and monitoring techniques vide sample plans and guidelines portunities Report is not a Wildlife Species Inventory Seasonal inventories should provimal and plant species identified on s The list should reflect resident and use the site.	Please note that a WHC Op- Management Plan. de an ongoing listing of ani- ite, including scientific names.	to locations ide area. Comp Listnames, addition environmental/of having knowled	nunity Referencesses, phone nuconservation to	ces imbers and email ferences, outside for delegates fro	the manager taddress of t e the comp ide state wild	nent hree any,
Monitoring and Mainten Habitat projects must provide ben	efits to wildlife and be moni-	organizations.	WHC will conta	act these people.		
tored and maintained for at least of this documentation should provide results of habitat efforts. A tho fulfill this requirement. Entries should be a second of the control of the contro	de, with dates and findings, rough activities journal could ould include notes on nest box	should depict ha Please identify of kept by WHC fo	bitats, wildlife, company and si	or wildlife team te name on slide in future publica	activities on jacket They	site.
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authorize the Wildlife Habitat Council (WHC) to keep and use this material in any manner, including such options as media coverage, slide presentations, and WHC-inclusive documents, with the understanding that due credit will be given to the photographer and company

responsible for the origin of the picture.

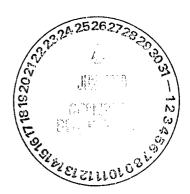
Civil Engineering • Surveying Planning • Environmental Services

ATWELL-HICKS, INC.

6303 26 Mile Road Suite 100 Washington, Michigan 48094 **810 786 9800 •** FAX: 810 786 5588

June 23, 2000

Mr. Jim Barancin Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397



Atwell-Hicks, Inc. Project No. MA01910

Re: Hydrogeological Investigation Workplan for an Area South of Raisin River in Raisin

Township, Michigan

Dear Mr. Barancin:

Enclosed please find a copy of Atwell-Hicks, Inc. (AHI)'s Hydrogeological Investigation Workplan for an Area South of Raisin River in Raisin Township, Michigan. AHI sent copies of this workplan to Ms. Vicki Katko of the MDEQ ERD Jackson District Office and Ms. Cora Rubitschun of the MDEQ Drinking Water & Radiological Protection Division in Lansing.

If you have any questions regarding this workplan, please do not hesitate to contact me at (810) 786-9800.

Sincerely,

ATWELL-HICKS

Mao Huang, Ph.D

Environmental Engineer

William C. Henderson

Manager, Environmental Services

MH

X:\Project\MA01910\Env\1910WP01Well Installation Workplan.doc

Cc: Mr. David Tripp, Dykema Gossett

Mr. Robert Sullivan, Wacker Silicones Corp.



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1.0 INTRODUCTION

On behalf of Wacker Silicones Corporation, Atwell-Hicks, Inc. (AHI) prepared this workplan for conducting a hydrogeological investigation in an area south of the Raisin River in Rainsin Township, Michigan. The objective of this hydrogeological investigation is to gather additional information regarding the groundwater conditions in the area south of the Raisin River near a proposed residential development.

A hydrogeological investigation was performed on the Wacker Silicones Corporation property to assess the soil and groundwater contamination in 1999. A Hydrogeological Investigation Report for Wacker Silicones Corporation Site was submitted to the MDEQ on June 30, 1999. The area south of the Raisin River at Raisin Center Highway and Kopke Road has been proposed for a residential development. Water wells were proposed for the new residential houses. On behalf of Wacker Silicones Corporation, AHI performed a hydrogeological evaluation for the proposed residential development. A Hydrogeological Evaluation for a Residential Development at the Southeast Corner of Raisin Center Highway and Kopke Road, Raisin Township, Michigan was submitted to the MDEQ on June 7, 2000. AHI's hydrogeological evaluation showed that the pumping from the proposed residential wells does not have influence on the aquifer beyond the residential subdivision.

AHI discussed the hydrogeological evaluation results with the Lenawee County Health Department and the MDEQ on June 15, 2000 and the MDEQ on June 21, 2000. The MDEQ and the Lenawee County Health Department verbally indicated that they require additional physical data to evaluate the contamination in the area immediately south of the Raisin River and assess the aquifer in the new residential development area not being impacted.

Based on the discussions with Ms. Vicki Katko, the MDEQ ERD Project Manager and Ms. Cora Rubitschun of the MDEQ Drinking Water & Radiological Protection Division on June 21, 2000, AHI proposes to conduct a hydrogeological investigation in the area south of the Raisin River. Six groundwater monitoring wells will be installed. Four permanent monitoring wells in two well nests will be installed in the wetland area south of the Raisin River. One well nest will be installed downgradient to AHI's previously installed monitoring well P3. The other well nest will be installed downgradient to AHI's previously installed monitoring well nest P4-S/P4-D. These four wells will be used to define the extent of contamination south of the Raisin River (if any), and to evaluate the vertical gradient in this area. Two temporary monitoring wells will be installed in the vicinity of the proposed residential development (Raisin Center Highway and Kopke Road). These wells will provide access for groundwater testing and hydrogeological evaluation (determination of groundwater flow direction and rate, aquifer analysis).

2.0 PROPOSED SCOPE OF WORK

AHI proposes to implement the following tasks:

Task 1 - Drill six soil borings and install six groundwater monitoring wells (four permanent and two temporary).

Task 2 - Collect groundwater samples from these wells and analyze the water samples for volatile organic compounds (VOCs).

Task 3 - Survey these newly installed wells.

Task 4 – Perform a hydrogeological evaluation (slug tests, determination of groundwater flow direction, horizontal and vertical gradients, groundwater flowrate, and aquifer analysis).

Task 5 - Prepare an investigation report.

AHI will utilize its Corporate Health and Safety Plan and follow appropriate health and safety requirements during all on-site work.

2.1 Soil Boring and Well Installation

AHI proposes six soil borings during this investigation. Due to the site access condition, the four soil borings in the area immediately south of the Raisin River will be drilled with a geoprobe. These soil borings will provide installation of four 1-inch monitoring wells (two well nests). The two soil borings in the vicinity of Raisin Center Highway and Kopke Road will be drilled using a hollow-stem drilling technique. Two temporary 2-inch monitoring wells will be installed in these two soil borings.

For the geoprobe soil borings, AHI will collect continuous soil samples to the ends of the boreholes. The soil samples will be screened with a photoionization detector (PID). In each well nest location, one soil sample in the unsaturated soil zone will be selected for laboratory analysis. The selection of the soil sample for laboratory analysis will be based on the highest PID reading or condition likely to be contaminated. For the two hollow-stem soil borings, AHI will collect soil samples to characterize the site geology and the depth to the confined aquifer using two-foot split spoon samplers at every five-foot interval. The geological information will be included in the soil boring logs.

Four permanent 1-inch monitoring wells will be installed in the geoprobe soil borings as two well nests. In each well nest, one shallow well (likely 10 feet deep) will be installed to intercept the water table. The deep well will be installed 10 feet below the shallow well. Each well will consist of a 5-foot section 1-inch diameter PVC screen and a 1-inch diameter PVC riser. Sand pack will be placed around the well screen and at least one foot above the top of the well screen. The rest of the annular space will be filled with bentonite. The PVC riser will be set approximately 3 feet above the ground surface. Each well will be covered with a well cap with a padlock.

The two hollow-stem soil borings will provide installation of two temporary 2-inch groundwater monitoring wells. These two temporary monitoring wells will be placed in the vicinity of the proposed residential development (Raisin Center Highway and Kopke Road). These wells will be used strictly for the hydrogeological evaluation. Each well will consist of a 5-foot section 2-inch diameter PVC screen and a 2-inch diameter PVC riser. The well screens will be placed in the confined aquifer beneath the confining clay layer. Based on the site condition, it is anticipated that these two temporary wells will be installed at approximately 65 feet below the ground surface. Pack sand will be placed around the well screen and at least two feet above the top of the screen. The temporary wells will be removed after completion of the groundwater sampling and the hydrogeological evaluation (survey, slug tests, determination of the groundwater flow direction and rate). The boreholes of the temporary wells will be grouted with bentonite/cement.

The drilling contractor will develop the monitoring wells by pumping water from the well until the water is free of silt. The well construction diagram will be presented in the investigation report.

2.2 Groundwater Sampling and Analysis

Prior to collecting a groundwater sample from each well, AHI will properly purge the well. At least three well volumes of water will be removed prior to the sampling. The sample will be collected using the laboratory-provided sampling jars and will be stored in the ice-packed cooler prior to the laboratory testing in an independent laboratory.

AHI proposes to analyze the water samples collected from the four permanent monitoring wells located in the area immediately south of the Raisin River. The groundwater samples will be analyzed for VOCs using USEPA Method 8260.

2.3 Elevation Survey

After the well installation and well development, AHI proposes to survey these six newly installed monitoring wells. The well elevations will be surveyed to the USGS datum. The locations of these six wells will be presented in a scaled map. AHI will then measure the static water elevations for these newly installed monitoring wells. Water elevations in the previously installed monitoring wells north of the Raisin River will be measured.

2.4 Hydrogeological Evaluation

The groundwater flow direction in the area south of the Raisin River will be determined from the static water elevations from these six wells and will be presented in a scaled map. Also, the vertical gradient in the area immediately south of the Raisin River will be determined by the two well nests.

AHI proposes to conduct slug tests from the 2-inch temporary wells. Rising head method (removing a slug of water in the well) will be used. A Hermit datalogger will be utilized to record the water level recovery in the well. The slug test data will be used to determine the hydraulic conductivity and the groundwater flow rate.

Based on the elevation contours, the horizontal and vertical hydraulic gradient will be determined. The groundwater flow rate will be determined from the hydraulic conductivity data and the hydraulic gradient data.

AHI will perform necessary aquifer analysis to further evaluate the potential impact from the pumping of water wells in the proposed residential development.

2.5 Investigation Report

After this hydrogeological investigation, AHI will submit an investigation report to the MDEQ. The investigation report will include all investigation activities, soil boring logs, monitoring well construction diagrams, analytical results, elevation data, scaled map with well locations and groundwater flow direction.

3.0 SCHEDULE

AHI will initiate the work outlined in this workplan within one week after the approval by Wacker Silicones Corp. and permission being obtained from the off-site property owners. AHI will complete the soil boring, well installation, groundwater sampling and elevation survey within three days after the initiation of the project. The groundwater analytical results will be available two weeks after the groundwater sampling. The investigation report will be submitted to the MDEQ within two weeks after receiving the laboratory report.

AHI has tentatively scheduled the drilling for June 28, 29 and 30, 2000. The soil boring, well installation, elevation survey, groundwater sampling and slug tests will be completed by June 30, 2000. The analytical results will be available by July 14, 2000. The hydrogeological report will be completed by July 28, 2000. The detailed schedule is presented in Table 1.

Table 1 Schedule

Scope of Work		Completion Date	
Drilling, Well Installation	June 30		
Elevation Survey	June 30		
Groundwater Sampling	June 30		
Slug Tests	June 30		
Laboratory Analysis		July 14	
Hydrogeological Report			July 28

Note: Assuming a starting date on June 28, 2000.

Atwell-Hicks, Inc. Project No. MA01910

This Workplan was prepared by:

Mao Huang, Ph.D. / Environmental Engineer

William C. Henderson

Manager, Environmental Services

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Residential Development at the Southeast Corner of Raisin Center Highway and Kopke Road Raisin Township, Michigan

Prepared for

Mr. James Barancin Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397

Atwell-Hicks, Inc. Project No. MA01910

June 7, 2000

ATWELL-HICKS, INC

6303 26 Mile Road P.O. Box 605 Washington, Michlgan 48094 **810 786 9800 •** FAX: 810 786 5588

June 7, 2000

Mr. James Barancin Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397



Atwell-Hicks, Inc. Project No. MA01910

Re: Hydrogeological Evaluation Report – Proposed Residential Development

Dear Mr. Barancin:

Atwell-Hicks, Inc. (AHI) completed the hydrogeological evaluation for the proposed residential development at the southeast corner of Raisin Center Highway and Kopke Road. Enclosed please find three (3) copies of Hydrogeological Evaluation report. AHI also sent a copy of this report to Mr. David Tripp of Dykema Gossett and Ms. Vicki Katko of Environmental Response Division with the MDEQ Jackson office.

If you have any questions regarding this report, please contact me at (810) 786-9800.

Sincerely,

11

Atwell-Hicks, Inc

Mao Huang, PhD.

Environmental Engineer

William C. Henderson

Manager, Environmental Services

Enclosures

cc: Mr. David Tripp, Dykema Gossett

Ms. Vicki Katko, MDEQ ERD in Jackson

MH/jmm

X:\Project\Ma01910\Env\1910HI01Wells.doc



14.3	Method Description and Parameter Selection	······································
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3.2	Drawdown from One Well	3
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2. S	Site Description Map	
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APPENDICES

- A. Site Plan for Residential DevelopmentB. Water Well Logs

1.0 INTRODUCTION

Atwell-Hicks, Inc. (AHI) was retained by Wacker Silicones Corporation (Wacker) to perform a hydrogeological evaluation on the proposed residential development at the southeast corner of Raisin Center Highway and Kopke Road in Raisin Township (study area). The objective of this hydrogeological evaluation is to assess the potential impact of multiple proposed and existing drinking water wells on the drinking water aquifer in this region of the Raisin River

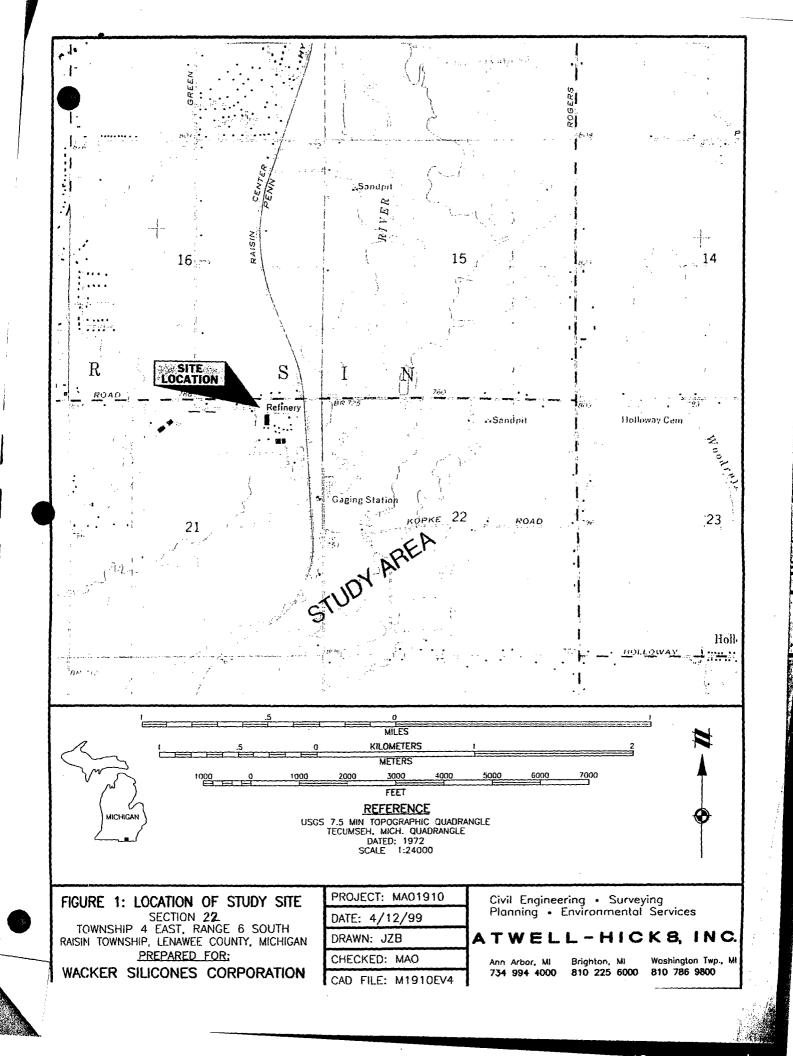
The study area is presented in a USGS topographic extract in Figure 1. The surface elevation is approximately 750 feet in the study area (Figure 1). A new residential development is proposed by High Country Estates for the area southeast of Raisin Center Highway and Kopke Road. A total of 17 lots are proposed. A copy of the site plan for the new residential development is included in **Appendix A**. Drinking water wells are proposed for the residential houses. Two existing houses (Moore property and Snyder property) are located in the vicinity of this area. An additional house is proposed by Mr. Moore at the northeast corner of Raisin Center Highway and Kopke Road. Figure 2 shows the study area with the approximate location of the 18 proposed wells (Wells No. 1 through 17, and Well 20) and two existing wells (Wells No. 18 and 19).

AHI researched existing water well logs (approximately 50 to 2,000 feet from the proposed wells) along with hydrogeological data from investigations conducted on the Wacker property (north of the Raisin River, approximately 1,000 feet from the study area). This information was used in the development of the hydrogeological analysis presented in this report.

2.0 BACKGROUND INFORMATION

AHI obtained water well logs for two existing wells on Moore (Well 18) and Snyder (Well 19) properties. Copies of well logs are included in **Appendix B**. The review of the well logs indicated that, in the area of the new residential development, the subsurface soil starting from the ground surface consists of sand (average 30 feet), clay (average 40 feet), and a water bearing sand formation. No water is present in the top sand formation. The wells are located in the water bearing sand formation below the clay soil (a confined aquifer). The well screens were set 13 feet into this water bearing sand formation (drinking water aquifer). The well logs indicate that at approximately 80 feet below the ground surface a sand formation was encountered at the ends of the borings.

AHI conducted a hydrogeological investigation related to the groundwater contamination at the Wacker property. The investigation results were summarized in AHI's Hydrogeological Investigation Report submitted to the MDEQ on June 30, 1999. AHI's hydrogeological investigation identified that the groundwater on the Wacker property flows towards the Raisin River with an average hydraulic gradient of 0.02. The aquifer slug testing showed an average hydraulic conductivity of 7.6 ft/day.



INTEROFFICE MEMORANDUM

TO: Dowe Parsons

FROM: Jim Arduin, Geologist

TOPIC: Geologic/Hydrogeologic Data Review and down-gradient contaminant discharge

SWS Silicones

Raisin Township, Michigan

DATE: May 30, 2000

Review Observations:

Former Drum Area

1) Vertical and Horizontal extents of contamination are not established at this location.

- -Vertical Extent not determined at P7, MW105 (fixed base lab data indicates mobil lab data at this point in not accurate)
- -Horizontal extent not determined at P7, M5, MW101
- 2) Lithology is predominantly Sands with gravel and clay lenses. First layer that may qualify as an aquitard is at approximately 70-80 feet below the water table.
- 3) Groundwater contamination is most likely reaching the Raisin River.
- 4) Vertical extent of contamination near the river is unknown. (P7 only 6 ft deep)
- 5) Geology is unknown adjacent to and beneath the river.

Former Lagoon Area

- 1) Vertical and Horizontal extents of contamination are not established at this location.
 - -Vertical extent not determined at OW4, MW102, P2, OW3D, P1, P3, P4, P5, and P6
 - -Horizontal extent not determined around P3, P4, P5, and P6
- 2) Lithology is predominantly sand with gravel and clay lenses. The first layer that may qualify as an aquitard is at approximately 70-80 feet below the water table.
- 3) Groundwater contamination has likely reached the Raisin River at concentrations above GSI.
- 4) Vertical extent of contamination near the river is unknown. (P2 is 19ft bgl, P3 is 9ft bgl, P4 is 23.5 ft bgl)
- 5) Geology is unknown adjacent to and beneath the river.

LENAWEE COUNTY HEALTH DEPARTMEN

1040 S. WINTER ST., SUITE 2328

ADRIAN, MICHIGAN 49221-3871

(\$17) 264-\$202 Environmental Hearn: (617) 264-5204 Adminis

(517) 264-5228 Clinics-Nursing: (517) 264-0790 FAX

LARRY W. STEPHENS, R.S., B.S. Health Officer

MARY KILGORE VALLAD, M.S., R.N. Director of Nursing

MICHAEL KIGHT, R.S., M.S., M.Ed.P.H. Director, Environmental Health Division

A PROPERTY OF VIRGINIA PENDER Business Office Coordinator

> Lee Spohr. 4400 Holloway Rd. Adrian, Michigan 49221

Dear Mr. Spohr:

This letter is in regard to the proposed wells for the property on the corner of Raisin Center Hwy and Kopke Rd. This property is located southeast of two known sites of environmental contamination, Wacker Silicones Corporation (formerly SWS Silicones) and the Raisin Township Sanitary Landfill.

Future development of the vacant Spohr property is pending and may be dependent upon individual water supplies. The Lenawee County Health Department has been asked to issue a permit for well construction, for parcels on this property. The Department of Environmental Quality, Drinking Water and Radiological Protection Division staff advises that the following information be considered when issuing any well permit for the Spohr property:

- 1. The Public Health Code (Act 368 PA 1978 as amended) part 127 (Ground Water Quality Control) Rule 122 (1) states in part that " A well that furnishes water for any beneficial use shall be located where it is not subject to Contamination..."
- Rule 121 states in part 3(b) that "A well shall be constructed to exclude all known sources of contamination from the well"
- Rule 122 (1) also states that "The following minimum horizontal distances shall be maintained when locating a well: (a) Eight hundred feet from either of the following: The active work area of a landfill, as defined in R299 4101... or(c) One hundred and fifty feet from a preparation or storage area for fertilizers, agricultural chemicals, or other chemicals that might contaminate the soil or groundwater.
- The notice of Migration of Contamination Form from the Wacker Silicones Corporation property includes levels of chemical contamination in the soils and groundwater in parts per million concentrations off site. The migration of this contamination is southeast toward the River Raisin and the Spohr property. There is no information available on migration of contamination

RECEIVED MICH DEPT OF ENVIRONMENTAL QUALITY

LOWELL EISENMANN Chairman, Board of Commissioners

HOWARD PENNINGTON, D.V.M. Chairman, Soard of Health

DENNIS K. CHERNIN, M.D., M.P.H. Medical Director

MAY 1 9 2000

Orinking Worse & Radiological Protection Division Ground Water Supply Section CONTAMINATION INVESTIGATION UNIT

7576 388 719

beneath the river or the status of ground water flow on the east side of the River Raisin on the Spohr property. Although well logs in the vicinity show extensive clay layers, it is unknown whether this clay is continuous.

Based on these concerns, the Lenawee County Health Department and the Michigan Department of Environmental Quality recommends that individual well permits not be issued until more specific information becomes available.

The developer is responsible for obtaining and providing the information needed for the Lenawee County Health Department to consider permitting well construction at this property. The Lenawse County Health Department and the Michigan Department of Environmental Quality recommends that the developer retain the services of a qualified hydro geological firm to address this matter. The consultant shall document that the proposed water supply on this property is not at risk for contamination from either the Walker Silicones Corporation property or the Raisin Township Sanitary Landfill property and that the consultant's evaluation disclose that wells can be installed on this property and safely utilized by the individual home owner with documentation to support that position.

If you have any questions concerning this matter feel free to contact me at 517 -264-5222.

Sincerely,

Paul Nelson, Environmental Health Supervisor

copy:Cora Rubitschun, DEQ :Larry Chittenden, Raisin Two Supervisor

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JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

Better Service for a Better Environment" HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

> INTERNET: www.deq.state.ml.us RUSSELL J. HARDING, Director

> > May 5, 2000

REPLYTO

DRINKING WATER & RADIOLOGICAL PROTECTION DIVISION 8428 N MARTIN L KING JR BLVD PO BOX 30530 LANKING MI 45507-0136

Mr. Michael Kight Environmental Health Director Lenawee County Health Department 1040 South Winter Street Suite 2326 Adrian Michigan 49221-3871

SUBJECT: Spohr Property, Raisin Township, Lenawee County

Dear Mr. Kight:

We have reviewed the information provided to us by Paul Nelson, on the proposed development of the Spohr property. This property is located southeast of two known sites of environmental contamination; Wacker Silicones Corporation (formerly SWS Silicones) and the Raisin Township Sanitary Landfill.

Future development of the vacant Spohr property is pending and may be dependent upon individual water supplies. The Lenawee County Health Department (LCHD) has been asked to issue a permit for well construction, for a parcel on this property. The Department of Environmental Quality (DEQ), Drinking Water and Radiological Protection Division (DWRPD) staff advises that the following information be considered when issuing any well permits for the Spohr property:

- 1. The Public Health Code (Act 368 PA 1978 as amended) Part 127 (Ground Water Quality Control) Rule 122 (1) states in part that "A well that furnishes water for any beneficial use shall be located where it is not subject to contamination...".
- 2. Rule 121 states in part 3(b) that "A well shall be constructed to exclude all known sources of contamination from the well".
- Rule 122 (1) also states that "The following minimum horizontal distances shall be maintained when locating a well: (a) Eight hundred feet from either of the following: The active work area of a landfill, as defined in R299.4101... or (c) One hundred and fifty feet from a preparation or storage area for fertilizers, agricultural chemicals, or other chemicals that might contaminate the soil or groundwater".

4. The Notice of Migration of Contamination Form from the Wacker Silicones Corporation property includes levels of chemical contamination in the soils and groundwater in parts per million concentrations off site. The migration of this contamination is southeast toward the Raisin River and the Spohr property. There is no information available on migration of contamination beneath the river or the status of ground water flow on the east side of the Raisin River on the Spohr property. Although well logs in the vicinity show extensive clay layers, it is unknown whether this clay is confirmous.

Based on these concerns, the DEQ, DWRPD recommends that individual well permits should not be issued until more specific information becomes available.

The developer is responsible for obtaining and providing the information needed for the LCHD to consider permitting well construction at the subject property. The DEQ, DWRPD recommends that the developer retain the services of a qualified hydrogeological consulting firm to address this matter.

If you have any questions, please contact me.

Sincerely,

Cora Rubitschun, Laboratory Scientist Contamination Investigation Unit Ground Water Supply Section Drinking Water and Radiological Protection Division 517-335-8255

Cora Kulutschun

CR:atm

Cc: Raisin Township Supervisor
Mr. Paul Nelson, LCHD
Mr. Joseph Lovato, DEQ, DWRPD

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REPLY TO:

PO 80X 30830

DRINKING WATER & RADIOLOGICAL PROTECTION DIVISION

9423 N MARTIN L KING JR BLVD



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALIT

Better Service for a Better Environment HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48809-7973

> INTERNET: www.deq.state.ml.us RUSSELL J. HARDING, Director

> > May 5, 2000

Mr. Michael Kight **Environmental Health Director** Lenawee County Health Department 1040 South Winter Street Suite 2328

Adrian, Michigan 49221-3871

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If you have any questions, please contact me.

Sincerely,

Cora Rubitschun, Laboratory Scientist Contamination Investigation Unit Ground Water Supply Section

Cora Kulitschun

Drinking Water and Radiological Protection Division

517-335-8255

CR:atm

Cc: Raisin Township Supervisor

Mr. Paul Nelson, LCHD

Mr. Joseph Lovato, DEQ, DWRPD

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DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: COMPLAINT INVESTIGATION

A-JA-03673

FACILITY: WACKER SILICONES C	SRN: A2849			
LOCATION: 3901 SUTTON RD	DISTRICT: JACKSON			
CITY: RAISEN TWP	COUNTY: LENAWEE CO			
CONTACT: ROBERT O SULLIVAN	ACTIVITY DATE: 05/03/2000			
REPORT DATE: 05/03/2000 STAFF: MDM		TRAVEL TIME:		
LEVEL OF INSPECTION: 1	FACILITY COMPLIANCE STATUS: C	TIME ON ACTIVITY: 20 MIN		
COMPLAINT NO: C-00JA-0030	COMPLAINT RESOLVED? Yes	DATE RESOLVED: 05/03/2000		
FOLLOW-UP CONTACT REQUESTED? Yes	DATE NOTIFIED: 02/18/2000	TYPE: Verbal		
SOURCE CLASS: OP	[]NSPS []NESHAP []PSD [x]TOXIC []MACT		

REMARKS:

Since the last status assessment concerning the chemical odors on February 23, 2000, no subsequent complaints have been received.

Later conversations with Robert Sullivan, environmental coordinator of Wacker, emphasized the removal of the chemical spray equipment for starling control.

I consider the complaint resolved.

STATUS CODES: C=COMPLIANCE NC=NONCOMPLIANCE NO=NOT OPERATING U=UNDETERMINED

NAME: Machine Marallan DATE: 5/3/2000 SUPERVISOR:

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION COMPLAINT LOG

COMPLAINT NO:C-00JA-0030	0:00 am	RECEIVED BY: MDM				
ASSIGNED TO: MDM	:30 pm	DATE RSLVD:05/03/2000				
FACILITY: WACKER SILICONE	S CORP	SRN:	A2849			
LOCATION: 3901 SUTTON RD		COUNTY:	LENAWEE CO			
CITY: RAISEN TWP		ZIP CODE:	49221-9397			
CONTACT: ROBERT O SULLIV	AN	PHONE NO:	517-264-8361			
COMPLAINANT: TERESA BOHANO	N					
LOCATION: 4223 SUTTON RI	D	PHONE NO:	517-423-7033			
CITY: RAISEN TWP.	ZIP CODE:	49221-				
FOLLOW-UP CONTACT REQUESTED? Yes	DATE NOTIFIED: 02/18/2000	TYPE:	Verbal			
SOURCE TYPE: Industrial	EMISSION SOURCE: Fugitive	SCC CODE:				
SCC DESC: UNKNOWN						
SOURCE DESC: complaint of	strong chemical odors at n	ight, bu	rning eyes			
SOURCE OF COMPLAINT: Verbal						
NATURE OF COMPLAINT: [x]Odor []Opacity []Fugitive Dust []Fallout						
[]Open Burning []Health Effects [x]Susp. Health Effects []Other						
REMARKS:	d de la companya de la companya de la companya de la companya de la companya de la companya de la companya de					
Descious de la conferme de mandas. Deb. 14th from a Ma						

Received the referral complaint on Monday, Feb. 14th from a Ms. Martha Averill of the Lenawee County Health Dept. In discussions with her, she identified the complainant as a Ms. Teresa Bohanon who had called in the previous week in regards to being impacted by chemical odors at 7:30 p.m. on Feb. 9th. Ms. Averill initially had some difficulty as to the proper contact with the state. She now has those appropriate contacts for Lenawee County.

The complaint had to do with strong chemical odors allegedly coming from Wacker Silicones, 3301 Sutton Road. It was alleged that the odors were strong that Wednesday evening and had been going on sporadically over the last six months. Ms. Averill left me her phone number and the phone number of the complainant. I

NAME: Marker Marker DATE: 5/3/2000

SUPERVISOR:

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION COMPLAINT LOG

COMPLAINT NO:C-00JA-0030	DATE/TIME RECEIVED:	02/14/2000	10:00 am	RECEIVED BY: MDM
ASSIGNED TO: MDM	DATE/TIME OF INCIDENT	:02/09/2000	7:30 pm	DATE RSLVD:05/03/2000
FACILITY: WACKER SILICONES	S CORP		SRN:	A2849

REMARKS:

indicated that I would send her a report of my findings.

I then called the complainant where we discussed the situation. She indicated that the odors have been happening in the evening, in which, they notice it when they are outside walking their dog. She indicated that it affects their throat and burns their eyes. Their home is located just east, downwind, of Wacker. indicated that they have lived at this location some eight years and this is the first time that they have had any problems. feels the tree line to the east of their home has aided in causing some of the impact. She also claimed that she smelled the same odor way out in Tecumseh one evening. I indicated that property is low in the area, and susceptible to ground level impact in the evenings if process emissions are a problem. I indicated that it was unusual for a process emission problem to go for this long. I then asked her if she could describe the odor that could aid me in focusing on certain processes at the plant. I described Methyl Mercaptan (skunky), Amine (fishy), sulfur (burning matches) and Hydrogen Sulfide (rotten eggs) odors to her. She couldn't describe the odors as any of these.

I indicated that I would be immediately contacting their environmental coordinator, Bob Sullivan, to invesigate process operations. The fact that she lives downwind with no other industry in the vicinity, certainly points to Wacker. I also gave her Sullivan's phone number as they have always been concerned and very responsive to any potential impact to the neighboring residents. As I gave her my name and phone number I reminded her that I wish to always be informed of problems. I also cautioned her when calling that the impact is really discomforting and not just claiming that she can identify the odor. I indicated the compounds mentioned can be noticed at extremely low concentrations.

She thanked me for my assistance. I indicated that we would get this investigated and resolved.

MICHIG DEPARTMENT OF ENVIRONMENT QUALITY PERMIT DEV. FILE



TO:

Linn Duling, Supe

Jackson District C Surface Water Qu affected.

Wetland ARRA

SWQD JACKSON

FROM:

Sara S. Bonnette

Great Lakes and Environmental Assessment Section

Surface Water Quality Division

SUBJECT:

Site Visit to the Wacker Silicones Corporation

Attached are two copies of our staff report #MI/DEQ/SWQ-00/022, A Reconnaissance of a Wetland Adjacent to Wacker Silicones Corporation, Lenawee County, February 15, 2000.

Effluent from the Wacker facility is discharged to a wetland although the receiving waterbody in the facility's NPDES permit (#MI0026034) is the River Raisin. It appeared that, at current production rates, the effluent would most likely not reach the River Raisin via overland flow. The wetland was thick with cattails and dogwoods. Aside from the effluent channel, the wetland did not contain standing water at the time of the visit and was not expected to be important habitat to aquatic invertebrates and fish such that the effluent would cause chronic water quality concerns. Therefore, we feel that it does not warrant a change in the designation of the receiving water body from the River Raisin to the wetland. The receiving waterbody should still be considered the River Raisin. Acute standards will be given to the effluent, as appropriate, which will protect the wetland for acute toxicity concerns.

Please feel free to contact me if you have any questions.

Attachments

cc/att: Janelle Hohm, Permits Section, SWQD

Brenda Sayles/William Creal/Lakes and Streams File

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

ACTIVITY REPORT: COMPLAINT INVESTIGATION

FACILITY: WACKER SILICONES CORP SRN: A2849 LOCATION: 3901 SUTTON RD DISTRICT: JACKSON RAISEN TWP CITY: COUNTY: LENAWEE CO CONTACT: ROBERT O SULLIVAN ACTIVITY DATE: 02/18/2000 REPORT DATE: 02/23/2000 STAFF: MDM TRAVEL TIME: TIME ON ACTIVITY: 3 HRS LEVEL OF INSPECTION: 1 FACILITY COMPLIANCE STATUS: C COMPLAINT NO: C-00JA-0030 COMPLAINT RESOLVED? No FOLLOW-UP CONTACT REQUESTED? Yes DATE NOTIFIED: 02/18/2000 TYPE: Verbal SOURCE CLASS: SM[]NSPS []NESHAP []PSD [x]TOXIC []MACT

REMARKS:

After receiving the information from the complainant on 2/14, I called Bob Sullivan of Wacker Silicones. I reviewed the circumstances of the call and requested that he go through the plant operations for potential sources of odorous impact to neighbors. I indicated that the impact was alleged to have happened last Wednesday evening, so monitoring the neighborhood may not be immediately helpful. I indicated that downwind sources, close to the plant, are affected.

Sullivan got back with me on 2/15 indicating that they suspect the source of the problem is a spraying program to control starlings. He indicated that the birds are so numerous that outdoor equipment has became coated with droppings. Concerns for health of the workers has also been a concern. I requested Wacker send information on the program and MSDS sheets for the chemical used.

On 2/16 I was faxed requested data. (See attachments) The chemical used is not a carcinogen, nor is it on the HAPs list. The symptom of eye irritation certainly points to this being the problem. I found there was an automated spray system that operated for a brief time in the evening, when supposedly the birds would be roosting. An attached memo from James Barancin, Plant Manager, dated 2/14 indicates the plant operations to cease the spraying program for the present.

In a review of the chemical makeup, it indicates that a permit

STATUS CODES: C=COMPLIANCE NC=NONCOMPLIANCE NO=NOT OPERATING U=UNDETERMINED

NAME: Maken Manchan DATE: 2/24/2000 SUPERVISOR: W

A-JA-03654

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

ACTIVITY REPORT: COMPLAINT INVESTIGATION

FACILITY: WACKER SILICONES CORP

SRN: A2849

A-JA-03654

REMARKS:

may be required from the "applicable state wildlife division." also noticed a permit they secured from the State, but it indicates that the permit expired in 1996. The permit also indicates that the procedure to be used was "baiting." Lethal spraying, I presume, would not be applicable. Consequently, I sent a note (attachment) to a Jim Jansen of the State Wildlife Division of the MDNR as to the circumstances. I also faxed him the MSDS sheets on the chemical spray. I understand he is the staff person that covers Lenawee County. That information was sent to him on 2/18, for his review and appropriate action. of 2/23, I have had no response from him.

Also on 2/18, Bob Sullivan called me and indicated that Mr. Barancin had decided to have the consultant remove the spray system and cease that program altogether. He indicated that the birds have won and they will look into selectively screening areas to discourage the birds from congregating. He indicated that there was not a significant reduction in the bird population over recent months. They felt the birds were not being affected that significantly.

I called the complainant and discussed the situation with her. She was very pleased at the response from our office, and the company. She indicated that odors have been reduced. indicated that we have a short period of time to monitor. cautioned her that there may be lingering odors from residues in the spray area and possibly some odors, if they do any purging when the spray system is removed.

I received a phone call from the complainant on 2/21, indicating that she did perceive lighter odors of the same character. reminded her of removal operations and lingering materials that may result in a slight odor. I will wait a week before resolving this complaint, if the odors have ceased.

A copy of the report of the investigation and findings was forwarded to the Lenawee County Health Dept.

Page 2 (END OF REPORT)

Wacker Silicones Corporation

WACKER

FAX TELECOMMUNICATIONS MESSAGE REQUEST FORM Date 3/16/00 Fex No.517-780-7437	3301 Sutton Road Adrian, Mi 49221-9397 (\$17) 284-8500 Fex (\$17) 284-8248
Originator Bob Sullivan	RAPS DEPARTMENT FAX NO. 1-(517)264-8293
To: Mike Maillard P.E. co:	
Attention: MUEQ	
Department:	

Total number of pages being transmitted ______, not including this cover letter.

When, Here is a copy of the memo, stating that we will not spray anymore. We must keep our neighbors happy also attacked is the MSDS you requested Jim Baranin did visit Bot the neighbor who made the roughlaint.

Sullivan, Robert

rom:

Barancin, Jim

Sent:

Monday, February 14, 2000 7:14 PM

To:

Hiatt, Ed; Weekley, Brad; Urbanowski, Tom; McIntyre, Mike: Decker, Mike

Cc:

Sullivan, Robert; Rogerson, Craig

Subject:

Bird spray

To All:

Please turn the bird spray system off beginning tomorrow, 2-15-2000, for an indefinite period. We have had neighbor complaints about the odor. I assume its this material as the timing appears right. On quiet humid nights it gets a little strong and the neighbors find it objectionable. When I have left late on certain evenings, I thought this situation might occur. Since the birds seem to be winning anyway, we shouldn't upset the neighbors as well.

Thx Jim

COPY

MEDUGAN DEPARTMENTON AATOKAL RENODELIK WILDUM DIVISION

PROJECT CONTROL APPLICATION AND PERMIT

DNR

This application is required for the placement of any pertocions of buildings in any non-industrial area.

i on any area where summinget species are likely to be present. This application is not remained for control work in industrial areas, i.e., areas where num-target species are not likely to be present Industrial Area (major famina Application and Permit Not reserved) ☐ Non-Industrial Area PROJECT AREA (Chest One): Apply firm pressure - Verify legibility on all four copies - Type or print all information, except signature. APPLICANT INFORMATION: DATE OF BOZINESS APPLICATION (ELEPHONE APHIS - ADG NAME APPLICANTS NUMBER NAME UNR PERMIT NUMBER ADDRESS PESTICIDE APPLIC LICENSE NUMBER CITY, STATE. PROPOSED PESTICIDE: LOCATION OF PROJECT: enawee BUSINESS AVITROL TREATED WHOLE CORN NAME (if an FENTILIONE HO ADDRESS CITY, STATE. TO OTHER (Specify) 49221 DRU-1339 VEAREST MAJOR INTERSECTION NATURE AND EXTENT OF 1. E. law sour dumnie Va Itemstur 6. Tetanoiel brouth brand to werken SPECIES OF BIRD CREATING DAMAGE PROJECT DATES: PIGEONS. (hrough Jan 25, 1996 PRE-BAITING DATES JAW 12 1796 **図 STARLINGS** FESTICIDE BARTING DATES JAN 26, 1996 3/3/46 EXPIRATION DATE ENGLISH SPARROWS ISSUE DATE If approved. Permittee is authorized to control damage and nuisance caused by the species indicated above by use of the posticide indicated above at the location indicated above. Permittee is subject to the "Rules and Regulations Governing the Operation of Pest Control Operators" and must follow labeled directions for application of pesticide. Permittee must have a current Commercial Pesticide Applicators License in the category 7A or 7D issued by the Michigan Department of Agriculture before this permit is valid. Failure to have such license will render this permit null and void. Baiting must be in such manner so as not to endanger protected, nontarget birds and animals. Easting must couse if threats to nontarget birds and animals exist. Daily surveillance and removal of dead birds is required. Violation of the conditions of this pennil shall cause this permit to be revoked. This permit expires on the date indicated above unless sooner revoked. DATE SIGNATURE 1-18-96 OF APPLICANT RETURN COMPLETED FORM TO: DNR WILDLIFE DIVISION, P.O. BOX 30028, LANSING, MI 48909 PERMIT SIUNATURE OF DIRECTOR'S AUTHORIZED 1/10/96 (EPRISENTATIVE

MATERIAL SAFETY DATA SHEET

Purina Mills, Inc., St. Louis, Missouri 63144

Phone: 314/291-6724

800/424-9300

(after hours)

PRODUCT NAME: Purina Starlicide Technical

Date 10/18/89 Replaces 09/12/89

Page 1

1. HAZARDOUS INGREDIENTS:

3 W/W 7745-89-3 3-Chloro-methylbenzenamine hydrochloride 100

(3-Chloro-p-Toluidine Hydrochloride) {alternate name}

98

2. PHYSICAL/CHEMICAL CHARACTERISTICS:

Solubility in Water: Soluble

· Appearance and Odor: Yellow Powder.

FIRE AND EXPLOSION HAZARD DATA:

Extinguishing Media: Water, dry chemical, carbon dioxide, foam

Unusual Fire and Explosion Hazards: Nonflammable and Nonexplosive

REACTIVITY DATA:

Stable.

Hazardous Polymerization: Will not occur

HEALTH HAZARD DATA: 5.

> - 2000 mg/kg Mouse Oral LD 50

- 1800 mg/kg Field Mics (Peromyscus) LD 50

- Fasted Male Albino Rats - 1770 mg/kg Rat Oral LD

Fasted Female Albino Rats - 1170 (830-1640) mg/kg

- Greater than 1250 mg/kg Rabbit Dermal LD 50

Sheep - Single Oral Doses 200 mg/kg - no deaths 400 mg/kg - one of two died

Page "

5. HEALTH HAZARD DATA: (cont'd)

Chicken - Single Oral Dose

mg/kg	mortality (time)
9	10/10 (2 days)
6	33/40 (2 days)
3	7/25 (3 days)

6 7/10 3 3/10

- Dermal (1/2 ml aqueous solution poured on back feathers)

	mg/kg	Killed/Total
3 wk old chicks (200 gm):	\$0 25	7/10 6/15
		6/15

Pigeon Oral LD₅₀ - 17 mg/kg

Redwing Oral LD₅₀ - 1.8-3.2 mg/kg

Hagpie Oral LD₅₀ - 5.6-17.7 mg/kg

Dogs (Single oral dose in corn oil suspension)

Dosage	S	ex	Mortality	
me/ke	Ħ	£	dead/alive	Days to <u>Death</u>
1000 500 250	1 1 2	1	2/2 2/2 2/2	<1 3,3
100 50	. <i>-</i>	2	2/2 2/2 0/1	1.1 3.1

Page J

5. HEALTH HAZARD DATA: (cont'd)

Route(s) of Entry: Inhalation-No

Skin-Yes

Ingestion-Yes

Carcinogenicity: NTP-No

IARC-No

OSHA-No

Signs and Symptoms of Exposure: Depression, hematuria, diuresis, burning of

skin and eyes.

Emergency and First Aid Procedures:

Eyes and Skin: Flush with plenty of cool water.

If Swallowed: . Induce vomiting and call a physician.

Note: 3-Chloro-p-Toluidine HCl can cause cyanosis.

6. PRECAUTIONS FOR SAFE HANDLING AND USE:

Steps to be Taken in Case Material is Released or Spilled:

Sweep up material and place in a suitable container.

Waste Disposal Method:

Disposal must be made in accordance with federal, state, and local regulations.

Precautions to be Taken in Handling and Storing:

Store in a cool, dry area away from foodstuffs.

7. CONTROL MEASURES:

Protective Gloves: Rubber

Work/Hygienic Practices: Wash hands thoroughly after handling.

While the information and recommendations set forth herein are believed to be accurate as of the date hereof. Purine Mills, Inc. makes no warranty with respect thereto and disclaims all liabilities from reliance thereon.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER

Fatal if proffored, harred it is inheled or absorbed through the ikin. Do not breathe vapora or dust. Corrosive, causes aye and this damage. Do not get in eyes, on skin, or an alothing. West goggles, face shield or respirator, rubber gloves, and protective chathing when handling. Work hands with some and erter after bandling.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and squafic invertebrates. Do ast apply directly to water, or to areas where enclace water is present, or to intertidal areas before the mean bigh tide much. Resulf may be hazardous to aquatic organisms in neighboring erous. De not contenzante water when disposing of equipment WACCHAIGH OF FIRMAN.

ENDANGERED SPECIES CONSIDERATIONS

Before undertaking any control operations with the product, commit with local, State, and Federal widdlife authorities to energy the use of this product presents an hezard to any endangered quocies.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manage incominant with its labeling.

DRC-1339 is a slow-acting avicide. Birds ingesting treated bait die 1 to 3 days later. Use positry policie, cracked corn, rolled batley, or brown rice to prepare treated bait. Poultry pellets and solled barley are generally well accepted by startings and cracked corn and brown rice by blackfird species. Baits made from other grains may be used if they are shown in tests with untreased materials to be preferred by the target exercise, and to be likely to have minimal nonturnet risks which would be equal to or less than those for poultry pellets, cracked corn, rulied barley, or brows rice.

NOTE: WHEN CONTROLLING BLACKBIRDS, GRACKLES, STARLINGS, CONSIRDS CROWS, AND MACRIES IT MAY BE NECESSARY TO OBTAIN A PHRINTI FROM THE APPLICABLE TIATE WILDLIFE AGENCY.

> SEE RIGHT SIDE FOR ADDITIONAL. DIRECTIONS FOR USE

RESTRICTED USE PESTICIDE DUE TO RION TO BIRDS

For retail asie to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicators ceráficación.

For use only by U.S. Department of Agriculture gordennel trained in birdcoption or persons under their direct expervision.

COMPOUND DRC-1339 CONCENTRATE-STAGING AREAS

For bird control in non-crop staging areas associated with roosts

ACTIVE INGREDIENT:

3-Chloro-4-methylbenzenamine hydrocialoride	98.0%
INERT INGREDIENTS:	2.0%
TOTAL:	00.0%

KEEP OUT OF REACH OF CHILDREN.

DANGER—POISON



STATEMENT OF PRACTICAL TREATMENT IF SWALLOWED: CALL A PRYSECIAN OR POISON CONTROL CENTER IMMEDIATELY!

IF SWALLOWED: Induce vorniting and immediately call a chveician.

IF INHALED: Move patient from contaminated area and immediately call a physician.

IF ON SKIN OR IN EYES: Immediately flush eyes or skin with large quantities of water. Call a physician immediately.

UNITED STATES DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE

> EPA Reg. No. 56228-10-1 Hyattsvillo, MD 20782



STORAGE AND DISPOSAL

Out of meanings with soul or feed by



\$TORAGE: from only a priging populator, and day place incremeble william, san and describe service.

PASTICIDE DISPOSALI Porticide waster any acutely intractions. improper disposal of same positions, spilled back, or charge is a violation of Federal inv. If these wastes cannot be disposed of by une according to lated instructions, onclust your State Particula or Environmental Control Agrocy, or the Planardone Waste representative at the pouron EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely evopy by shaking and impring sides and bottom to leaver, clinging particles. Empty residue into application equipment, then dispose of bugs in a makery haddle or by instrument allowed by Stete and local authorities. If beyond, stey OUT OF HOME

DIRECTIONS FOR USE (Cont.)

USE RESTRICTIONS

Use this product to prepare baits to control the pest birds indicated below at "staging" areas associated with night time cooning sites. "Staging" areas where baits may be applied juckede stabble fields, harvested hay fields, open grassy or bare-ground noncrup meas. roadsides, roof tops, industrial and commercial structures, and secured parking areas.

DO NOT apply best in any way that could conteminate food or feed crops or that could be ingested by Fivestock.

DO NOT apply baits where there is a danger of consumption by Endangered or Threstened Species. DO NOT barvest any crops for use as faod or feed or allow livestock to graze in treated ficials for one year following application of the pesticide in any AFCE.

Target Species

Bust-miles greakle (Quescalus major) Brown-headed coasted (Molostoric ater) Comuma grackle (Quiscalus quiscula) Great-tailed prackle (Cossidia mexicanus) Red-winged blackbird (Agelains phoenierus) Starling (Sturmes valgaris)

When in mixed flocia with one or more of the species) isted arove, the following species also shall be considered to be terzet mucios: Common crown (Corvin bruchyshynchos), Rick-biled magpies (Fice pica), Besser's blackbird (Euphagus cyanocaphaius), Rusty blackbirds (Euphagus curolinus), Tri-colored blackbird (Agelzius sriceles), and Yellow-headed Markbird (Kanthocethelm xanthocethelm).

SEE REVERSE SIDE FOR ADDITIONAL

Net Weight



Before applying treated bait, observe target populations of birds thoroughly to determine their relative numbers, feeding babits, and preferred "staging" areas. Once potential "staging" areas are located, they must be observed to determine the relative abundance of nontarget species and prebaited with untreated bait to promote bait acceptance by target species.

PREBAITING

After daily activity patterns of birds have been noted and appropriate baiting location selected, apply untrated bait material of the type that will be used for the toxicant within "staging" areas using the selected method of application at the rate given in APPLICATION DIRECTIONS below. Prebait for 1-2 weeks or until prebait is generally well accepted. Change prebaiting locations if necessary to achieve good acceptance. DO NOT apply toxic bait at sites where prebait has not been accepted well or where nontarget species have been enting prebait.

FORMULATION DIRECTIONS

Screening buit material Prepare all baits for treatment by screening to remove small particles and dust. For and cracked corn, screening through a U.S. Standard Sieve No. 5 onto a U.S. Standard Sieve No. 7 will result in uniform baits weighing form 20 to 80 mg (0,000 to 23,000 baits/lb.). For brown rice poultry pellets, whole or rolled corn, and other baits, screening onto a U.S. Standard Sieve No. 7 will result in approximately 4500 pellets or 1500 kernels/lb., respectively.

Mixing buit Dissolve Compound DRC-1339
Concentrate - Staging Aress in an appropriate carrier and mix with the buit unsterials of choice as indicated below.

Cracked Corn or Rolled Barley (2% bait): 92 gruns (3.2 oz) Compound DRC-1339

4.5 kg (10 lbs) rolled barley or cracked com

Use binding agents, if needed.

ratew sidaked (to \$1) im 00%

Brown Rice (2% buit):

92 grans (3.2 oz) Compound DRC-1339

10 mi (0.3 oz) edible cil

30 ml (i oz) Akolec S

4.5 kg (10 lbs) brown rice

Poultry Peltets (1% bait):
46 grams (1.6 ex) Compour PRC-1339
400 ml (14 ex) potable wate
4.5 kg (10 ibs) poultry pellets

Air dry baits at embient temperature.

If protreatment preference tests indicate that use of another grain material is warranted for builting target birds, substitute the new grain material in the recipe above which resembles the selected built substance in particle size and testure.

Dilution Dilute baits with untreated, similar grain materials to reduce the possibility that any target bird will ingest more than any target bird will ingest more than any target species appertunities to consume toxic built particles. For the baits described above, the following dilution ratios are recommended:

Boit Materials

Retio of Treated to Unicated Particles

rolled barley/cracked corn/poultry pellets 1:10 or more brown rice 1:25 or more

Stability Treated being may be stored and used up to 30 days after preparation. Use dileted beits within 7 days. Baits that have been exposed to sunlight should be used immediately endaposed of as pesticide waste.

APPLICATION DIRECTIONS

Wear subber gloves while handling baits. Where applicable, use a accord for dispensing or breadcasting the beits.

Apply treated baits to "staging" areas where target birds have accepted prebait using one of the following methods:

1. Buil trave Place up to 4.5 kg of bait in one or more retrievable containers. Replace bait when it is 75% consumed, or after one week, or following 10 mm (0.4 in) of precipitation. Retrieve unemen bait at completion of treatment.

2. Broadcast, mechanical Broadcast bait using ground equipment or aircraft calibrated to deliver bait at a rate of 22 to 57 kg/ha (20 to 50 lbs/acro) in swaths 6.5 to 17 m (20 to 50 feet) wide. Space treated swaths at least 6.5 to 17 m (20 to 50 feet) apart. Treated swaths may be retreated only once and only if 75% of baits previously applied have been consumed or following 10 mm (0.4 in) of precipitation. Previously unbreated awaths may be treated, if mocessary, after two treatments have been made to swaths originally treated and hait has been consumed or if 10 mm (0.4 in) of precipitation has fallen since the second treatment. DO NOT uses aerial application in the vicinity of food or feed crops. BO NOT apply bait by any mechanical broadcasting method if there is any possibility that treated bait will lacd in areas

frequented by children or nontarget animals.

3. Broadcast menual. Wearing protective gloves, musually broadcast but at a rate of 6.5 kg/90 mi (i.e. librarie) yards; in swaths 6.5 to 17 m (20 to 50 feet) wide. Such treated swaths at least 5.5 to 17 m (20 to 50 feet) apart. Bailed areas may be retreated once if 75% of baits previously applied have been consumed or following 10 mm (0.4 in) of precipitation. Retrieve uncertain bait at the completion of the treatment period.

Dispose of treased or custisted buit in accordance with the Frederic and State have by buriel in an approved emitary landfill or by incimention at an approved site if allowed by state and local authorities.



STATE OF MICHIGAN



JOHN ENGLER, Governor DEPARTMENT OF ENVIRONMENTAL QUALITY RUSSELL J. HARDING, Director

FACSIMILE COVER SHEET

10.	DNR-Wildlis
FROM:	Mike Maillard Air Quality Division, Jackson District Office 517-780-7845 (phone) 517-780-7437 (fax)
Ň	IUMBER OF PAGES INCLUDING COVER SHEET: 10
COMMENT	S:
Vim,	
- 6/12	se refer to E-Hail wate sent to
1000	
Jan.	
Mile	74
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY JACKSON DISTRICT OFFICE 4TH FLOOR STATE OFFICE BUILDING 301 EAST LOUIS GLICK HIGHWAY JACKSON, MI 49201 TELEPHONE: 517-760-7900 (OFFICE)

517-780-7855 (FAX)

DATE:

AIR QUALITY DIVISION
ENVIRONMENTAL LAW DIVISION
ENVIRONMENTAL RESPONSE DIVISION
FIELD ADMINISTRATION
LAND & WATER MANAGEMENT DIVISION
SURFACE WATER QUALITY DIVISION
WASTE MANAGEMENT DIVISION

From:

Michael Maillard

Date:

Fri, Feb 18, 2000 11:30 AM

Subject:

Starling kill off

Jim,

Fik Wacker Silicones, Adrian

I am an engineer for air quality in Jackson who covers facilities in Lenawee County. I understand, thru Sheree Kershaw, that you oversee wildlife issues in that County. I received a referral complaint of chemical odors from the Lenawee County Health Dept., Monday, Feb. 14th. They actual had a citizen's complaint from the previous Wednesday, but didn't get around to contacting me till later. It was alleged that Wacker Silicones, 3301 Sutton Rd., Raisen Twp., was impacting a resident just east of them with strong chemical odors in the evening. When I called the complainant they indicated that it had gone on at intervals over the last six months. She indicated that it was only happening in the evening when they were outside and it burned their eyes. She could not describe the odor and couldn't identify it with some of the process operations at this facility, that I described. I then called the environmental manager for Wacker, a Bob Sullivan at 517-264-8361. In his own subsequent investigation at the facility, he responded back that the time of the complaints and the fact that the last alleged impact was the previous Wednesday, lead him to believe that it was from a chemical spraying program that they had implement to reduce the vast population of starlings that were perching at their plant and coating many of their outside facilities with bird droppings. The plant manager, Jim Barancin, contacted the complainant and made a decision to cease the spraying. I since received a phone call on the 16th that they had made a decision to have the consultant remove his equipment and go home. As Sullivan characterized it, "The starlings have beat us and the company will begin the process of installing screening in selected area to discourage them from congregating".

Now I had requested the MSDS sheets on the chemical, and they are attached. I see it is a noncarcinogen, but can create eye irritation that the complainant had noted. I couldn't find it listed in my chemical dictionaries. I have also sent you a copy of a permit that they secured, it looks like your signature, from the DNR for "baiting" which doesn't seem to pertain to the lethal spraying they were doing. It also appears that this permit may have expired on 3/31/96. I am faxing up the MSDS sheets on the chemical and a copy of the expired (?) permit. Its your call as to where you want to go, as it pertains to your rules and guidelines. If you have any questions, feel free to contact me 517-780-7845 or E-mail at maillarm@state.mi.us.

Mike

CC:

Monosmic

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION COMPLAINT LOG

COMPLAINT NO:C-00JA-0030	DATE/TIME RE	CEIVED: 02/14/2	000 1	0:00 am	RECEIVED BY:	MDM
ASSIGNED TO: MDM	DATE/TIME OF	INCIDENT:02/09/2	000 7	':30 pm	DATE RSLVD:	/ /
FACILITY: WACKER SILICONE	S CORP			SRN:	A2849	
LOCATION: 3901 SUTTON RD		,		COUNTY:	LENAWEE	co
CITY: RAISEN TWP				ZIP CODE:	49221-93	97
CONTACT: ROBERT O SULLIV	AN			PHONE NO:	517-264-	8361
COMPLAINANT: TERESA BOHANO	N					
LOCATION: 4223 SUTTON R	D		•	PHONE NO:	517-423-	7033
CITY: RAISEN TWP.		STATE: MI		ZIP CODE:	49221-	
FOLLOW-UP CONTACT REQUESTED? Yes	DATE NOT	FIED: 02/18/20	00	TYPE:	Verbal	
SOURCE TYPE: Industrial	EMISSION	SOURCE: Fugitive		SCC CODE:		
SCC DESC: UNKNOWN				·-		
SOURCE DESC: complaint of	strong c	hemical odors	at n	ight, bu	ırning ey	es
SOURCE OF COMPLAINT: Verbal						
NATURE OF COMPLAINT: [x] Odor	[]c	pacity [] Fugi	tive Dus	st []Fallout
[]Open Burning []Health	Effects [x]S	usp.	Health H	Effects	[]Other
Received the referral complaint on Monday, Feb. 14th from a Ms. Martha Averill of the Lenawee County Health Dept. In discussions with her, she identified the complainant as a Ms. Teresa Bohanon who had called in the previous week in regards to being impacted by chemical odors at 7:30 p.m. on Feb. 9th. Ms. Averill initially had some difficulty as to the proper contact with the state. She now has those appropriate contacts for Lenawee County. The complaint had to do with strong chemical odors allegedly coming from Wacker Silicones, 3301 Sutton Road. It was alleged that the odors were strong that Wednesday evening and had been going on sporadically over the last six months. Ms. Averill left me her phone number and the phone number of the complainant. I						
NAME: Mafer 711	aller.	DATE	: <u>2/</u> 2	23/1000	SUPERVISO	R: DW

Page 1 (CONTINUED)

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION COMPLAINT LOG

-		DATE/TIME RECEIVED:			· · · · · · · · · · · · · · · · · · ·	DM
ŀ		DATE/TIME OF INCIDENT	:02/09/2000		<u> </u>	
L	FACILITY: WACKER SILICONES	CORP		SRN:	A2849	

REMARKS:

indicated that I would send her a report of my findings.

I then called the complainant where we discussed the situation. She indicated that the odors have been happening in the evening, in which, they notice it when they are outside walking their dog. She indicated that it affects their throat and burns their eyes. Their home is located just east, downwind, of Wacker. indicated that they have lived at this location some eight years and this is the first time that they have had any problems. feels the tree line to the east of their home has aided in causing some of the impact. She also claimed that she smelled the same odor way out in Tecumseh one evening. I indicated that property is low in the area, and susceptible to ground level impact in the evenings if process emissions are a problem. I indicated that it was unusual for a process emission problem to go for this long. I then asked her if she could describe the odor that could aid me in focusing on certain processes at the plant. I described Methyl Mercaptan (skunky), Amine (fishy), sulfur (burning matches) and Hydrogen Sulfide (rotten eggs) odors She couldn't describe the odors as any of these.

I indicated that I would be immediately contacting their environmental coordinator, Bob Sullivan, to invesigate process operations. The fact that she lives downwind with no other industry in the vicinity, certainly points to Wacker. I also gave her Sullivan's phone number as they have always been concerned and very responsive to any potential impact to the neighboring residents. As I gave her my name and phone number I reminded her that I wish to always be informed of problems. I also cautioned her when calling that the impact is really discomforting and not just claiming that she can identify the odor. I indicated the compounds mentioned can be noticed at extremely low concentrations.

She thanked me for my assistance. I indicated that we would get this investigated and resolved.

STATE OF MICHIGAN



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REPLY TO

JACKSON DISTRICT OFFICE STATE OFFICE BUILDING 301 E LOUIS GLICK HWY JACKSON MI 49201-1558

JOHN ENGLER, GOVERNOR DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us
RUSSELL J. HARDING. Director

October 28, 1999

Mr. Robert Sullivan Wacker, Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397

Dear Mr. Sullivan:

SUBJECT: Hydrogeological Investigation Report Wacker Silicones Site Adrian

I have completed my review of the Hydrogeological Investigation Report for the Wacker Silicones Corporation site in Lenawee County, prepared by Atwell-Hicks, Inc. and dated June 30, 1999. The report has done much to characterize the contamination at the facility. As expected, some amount of work must still be performed to complete this characterization. The comments Loffer on this report should indicate what that work should consist of:

- The discussion contained in Section 3.2, Preliminary Evaluation of Relevant Exposure Pathways, is appropriate and should be used as a list for future risk assessment and site closure. However, the first paragraph eliminates groundwater volatilization from the groundwater due to depth to groundwater. This is not appropriate at this time. The generic criteria for volatilization to indoor air from groundwater apply at any depth. Although site specific criteria can be generated which account for such factors, the pathway should not be eliminated without due consideration. For more information regarding this matter, we may wish to seek the consultation of an ERD toxicologist familiar with these calculations.
- 2) Section 3.3.1 discusses the Soil Contamination in the Former Drum Disposal Area. I am concerned that the hand auger borings used to define the limits of the contamination did not go deep enough. Most were less than 4 feet, but some of the higher levels of contamination were found below 10 feet. Also, the horizontal extent of contamination should be defined to be protective of residential drinking water criteria. This pathway may later be addressed in a remedial action plan (RAP), but should be used to define the contamination at this time. Please note that, depending on the remedy selected in the RAP, some of this work may be included at the time of RAP implementation.
- 3) Although the extent of groundwater contamination in the former drum disposal appears to have been defined at this time, the vertical extent of this contamination will likely need to be monitored in a future RAP.
- 4) Section 3.3.3 discusses the Soil Contamination in the Former Lagoon Area. As with the characterization of soils around the drum disposal area, I am concerned that the geoprobe borings used to define the horizontal extent did not penetrate far enough. Many borings were ended at 10 feet, whereas borings in the former lagoon found contamination at deeper levels. In addition, this contamination should also be defined according to generic

- residential criteria. As noted above, some of this work may be included as part of the selected remedy.
- 5) The groundwater contamination in the area of the former lagoon still requires further definition. Especially is this true to the east, as Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, P.A. 451 of 1994, as amended, does not allow contamination to migrate off-site above residential criteria unless addressed in an approved RAP.

The final work plan for the site, then, should fill these data gaps and complete the characterization of the site. In addition, as noted above, it may be reasonable to include work that may be utilized to monitor a final remedy for the site. This plan should be submitted if possible within two months, per Mr. Gary Klepper's letter of January 27, 1999, and include a schedule for producing the final RAP for the site.

As you had previously suggested to me setting up an meeting to discuss this report, now that my review is complete. I invite you to contact me and we will do so. Regarding that meeting, or if you have any other questions, please feel free to contact me at 517-780-7932.

Sincerely,

Peter T. Masson

Environmental Quality Analyst Environmental Response Division

cc: Mr. George Jackson, DEQ

Mr. R. Dowe Parsons, DEQ. RQ

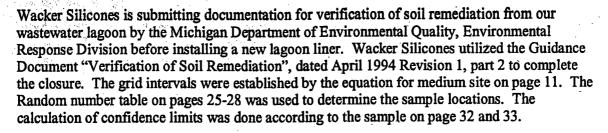


August 17, 1999

Mr. Peter T.Masson **Environmental Quality Analyst** Environmental Response Division Jackson State Office Bldg. 301 E. Glick Hwy. Jackson, MI 49201

RE: Clean Closure for Wacker Silicones Wastewater Lagoon

Dear Mr. Masson



The first set of samples (6) were taken and analyzed by Jones & Henry Laboratories. Results indicated that more soil needed to be removed. All of the old clay liner was removed.

The second set of samples (12) were taken 1 ft below the surface of the pond. These results along with the calculations of the Confidence limits provided us with the results to show that the pond has been remediated to the levels that should meet clean closure standards.

Wacker Silicones would appreciate your evaluation of the data and calculations submitted at your earliest convenience.

Enclosed are the following items:

John Jah

- 1. Special Waste Acceptance Approval by Adrian Landfill
- 2. Site map, which shows sample location
- 3. Data Analyses provided by Jones & Henry
- Statistical analyses of Confidence limits for Aluminum and Iron.

Please feel free to contact me at 517-264-8361 for discussion of the information provided.

Robert O. Sullivan CHMM Manager, Regulatory Affairs

and Product Safety

Wacker Silicones Cor 3301 Sutton Road Adrian, MI 49221-939 (517) 264-8500 Fax (517) 264-8246



1970 NORTH OGDEN HIGHWAY ADRIAN, MI 49221 OPERATING PERMIT #<u>8521</u> TELEPHONE #517-263-7080 FAX #517-264-2905

DATE: <u>June 17, 1999</u>		
GENERATOR COMPANY NAME: Wacker Sili	cones Corporation	
GENERATOR SITE ADDRESS: 3301 Sutton Road Adrian, MI 49221	GENERATOR MAILING ADDRESS: SAME	
GENERATOR CONTACT/TELEPHONE #: R	obert o. Sullivan (517) 264-8361	
TECHNICAL CONTACT/ TELEPHONE #: SAI	ME .	
WASTE STREAM NAME: <u>Lagoon Sludge</u>	distribution of the second of	
WASTE CLASSIFICATION: Non-Hazardous Spe	ecial Waste	
ESTIMATED ANNUAL VOLUME: 4000 Cubic	<u>Yards</u>	
DISPOSAL SITE AUTHORIZATION API	PROVAL # <u>AD992330</u>	
AWI DISPOSAL AUTHORIZATION EXPIRAT	FION DATE: September 21, 2000.	en de
 Any load determined to contain free liquids c A Non-Hazardous Waste Manifest must accomp Customer must contact Adrian Landfill to schedule 	pected upon receipt at the landfill to conform with the Waste annot be accepted for landfill disposal (40 CFR 258.28). The landfill annot be accepted for landfill. The landfill ule this waste stream prior to disposal. If the disposal volume is exceeded, landfill is listed above. If the disposal volume is exceeded, landfill.	
•	at has reviewed the documentation submitted for approval.	This waste stream ha
	Rebecca Stein, Special Waste Coordin Publica Shew Bric Ballenger, Environmental Monito	407:

Original to: Ross Scherzer, Ops Mgr., Adrian Landfill pc: AWI Alsip Office-File Amy DeBruyn, AWI Sales Robert O. Sullivan, Wacker Silicones Corp.



HYDROGEOLOGICAL INVESTIGATION REPORT

for

Wacker Silicones Corporation Site 3301 Sutton Road Raisin Township, Michigan 49221-9397

prepared for

Mr. Robert Sullivan, CHMM

Manager Regulatory Affairs and Product Safety
Wacker Silicones Corporation
3301 Sutton Road
Adrian, Michigan 49221-9397

Atwell-Hicks, Inc. Project No. MA01910

June 30, 1999

1.0 INTRODUCTION

1.1 Investigation Objective

Atwell-Hicks, Inc. (AHI) was retained by Wacker Silicones Corporation to conduct a hydrogeological investigation at the Wacker Silicones Corporation site (hereafter referred to as the subject site). The purpose of this hydrogeological investigation was to define the extent of soil and groundwater contamination associated with historical operations in the former drum disposal area and the former lagoon area at the subject site.

The subject site is located in Section 21, Township 4 East, Range 6 South in Raisin Township, Lenawee County, Michigan. The location of the subject site is presented in a USGS topographic extraction in Figure 1. Figure 2 presents a survey map for the subject site. The locations of soil borings, existing monitoring wells are also shown in Figure 2. Figure 3 presents a detailed map for the former drum disposal area.

According to information provided by Wacker Silicones Corporation, the groundwater at the site has been the subject of investigation for volatile organic compounds (VOCs) contamination, primarily consisting of chlorinated solvents, in two separate locations, the former drum disposal area and the former lagoon area (Figure 2).

In a letter dated November 3, 1998, the MDEQ requested Wacker Silicones Corporation to undertake appropriate response actions to investigate the contamination at the subject site. On behalf of Wacker Silicones Corporation, AHI reviewed the previous investigation and monitoring results, and submitted an Evaluation Activity Plan to the MDEQ on November 27, 1998. Based on the MDEQ's comments, AHI prepared an Addendum to the Evaluation Activity Plan on December 18, 1998. On January 5, 1999, AHI and Wacker Silicones Corporation met with the MDEQ on site and finalized the scope of this hydrogeological investigation.

As outlined in the Evaluation Activity Plan and the meetings/discussions between the MDEQ, Wacker Silicones Corporation and AHI, the objectives of this hydrogeological investigation were to: (1) evaluate the groundwater contamination downgradient of the former drum disposal area, (2) delineate the soil contamination in the former drum disposal area, (3) evaluate the groundwater contamination downgradient of the former lagoon area, (4) evaluate the residual contamination in the former lagoon area, and (5) provide recommendations for further evaluation and corrective actions.

The hydrogeological investigation was conducted between February 22 and May 20, 1999. During this hydrogeological investigation, AHI completed the following: (1) drilled 16 temporary monitoring wells, (2) drilled 17 permanent monitoring wells (five 2-inch diameter wells and twelve 1-inch diameter wells), (3) installed 17 geoprobe soil borings, (4) drilled 15 hand auger soil borings, (5) analyzed 101 soil samples, 50 groundwater samples and 16 surface water samples (including duplicate and verification samples), (6) surveyed 31 monitoring wells, (7) measured static water levels from 19 monitoring wells, and (8) conducted slug tests on five monitoring wells. The investigations activities and results of this hydrogeological investigation are summarized in this report.

1.2 Regional Geology

The subject site is located along the north side of River Raisin. According to the Michigan Water Resources Commission (Geology of River Raisin Basin, 1963), the River Raisin basin lies near the southeast edge of an area known geologically as the Michigan Basin. The bedrock formations which underlie the glacial drift in the River Raisin basin span many years in geologic time from late Silurian to middle Mississippian, and generally consist of sandstone, limestone and/or shale.

The glacial features of the River Raisin basin may be associated with the formation of the moraines or the glacial lakes. The glacial features consist of a heterogeneous mixture of sand, gravel, clay and silt. The thickness of the glacial features varies between 50 and 350 feet (Michigan Water Resources Commission, 1963).

Water wells were drilled in the past in the area close to the current administration building (upgradient and outside the contamination area) at the subject site (Figure 2). The review of the well logs indicates that the glacial deposits of sand with gravel and clay lenses extends to approximately 100 feet below the ground surface in the area of the administration building. There is a confining clay layer with a thickness of at least 50 feet beneath the sandy deposits. The bedrock is at least 200 feet below the ground surface in this area. Copies of water well logs are presented in Appendix A.

The groundwater samples collected from the monitoring wells and surface water bodies in the wetland areas indicated that PCE, TCE and/or vinyl chloride were detected. Based on the groundwater flow direction and the contaminant levels in MW103, AHI considers that it is likely that the contaminants identified in OW-4S and OW-4D are from the former lagoon at the subject site, instead of from the off-site landfill.

Due to the topographic conditions, the groundwater flow direction was toward both east and south, downgradient of MW102 and OW-4D.

2.4 Decontamination

During this hydrogeological investigation, AHI and the drilling contractors followed proper decontamination procedures. The drilling equipment such as the augers were steam-cleaned before the drilling each soil boring. The hand auger and spilt spoon samplers were decontaminated between each sample by washing with Alconox soap followed by rinsing with clean water/deionized water. During the groundwater sampling, disposable bailers were utilized for each individual sample in each well.

2.5 Determination of Groundwater Flow Directions

A total of 19 existing 2-inch diameter monitoring wells at the subject site were surveyed by AHI's survey crew on March 16 and 17, 1999. This includes 14 previously drilled 2-inch diameter monitoring wells (six M-series and eight OW-series) and 5 newly-drilled 2-inch diameter monitoring wells (MW101 through MW105). The 1-inch diameter monitoring wells were surveyed by AHI's survey crew on May 19 and 20, 1999. The elevation data for the ground, top of casing, depth to groundwater from the top of casing, and the water table are listed in Table 3.

Based on the groundwater elevation, the groundwater flow direction in the former drum disposal area was determined to be toward the southeast/south to the wetland/Raisin River (Figure 2). The groundwater flow direction in the former lagoon area was determined to be toward the south and southeast to the wetlands/Raisin River (Figure 2).

3.0 DISCUSSIONS AND RECOMMENDATIONS

3.1 Site Geology and Hydrogeology

3.1.1 Former Drum Disposal Area

Based on the soil boring activities, the soil in the former drum disposal area generally consisted of sand with some discontinuous silt/clay layers. A layer of silt/clay was encountered in GP2 at 14 feet below the grade, in GP3 at 12 feet below the grade, in GP7 at 12 feet below the grade, in GP9 at 11 feet below the grade, and in SB101 at 18 feet below the grade, respectively. SB101 was drilled to 70 feet below the grade, the silt/clay soil was encountered between 18 and 28 feet below the grade. No water was encountered in the soil above the silt/clay soil in GP2, GP3, GP7, GP9 or SB101. SB105 was drilled to 60 feet below the grade and no silt/clay soil was encountered.

There is a significant elevation drop in the former drum disposal area toward the northern edge of the wetland. In the wetland area, a layer of sandy silt with a thickness of 1 foot was encountered lying above the sandy soil in P7 and P8.

Based on available information, a geological cross section A-A for the former drum disposal area is presented in Figure 4.

Groundwater was encountered at approximately 33 to 35 feet below the grade in the former drum disposal pit area, at approximately 42 feet in the vicinity of MW101 prior to the slope to the wetland/Raisin River, and at approximately 2.5 feet in the vicinity of M-5S/M-5D (in the wetland). Candwater venting was observed in the vicinity of P7.

Based on the groundwater elevation, groundwater flow direction in the former disposal area was toward to the southeast/south to the wetland/Raisin River (see Figure 2).

3.1.2 Former Lagoon Area

Based on the soil boring activities, the soil in the former lagoon area generally consisted of sand with a silt/clay layer. A layer of silt/clay was encountered in the former lagoon area. The silt/clay layer was generally 10 to 13 feet below the grade. The thickness of this silt/clay layer was approximately 10 to 15 feet. A perched water was encountered above the silt/clay layer. However, the amount of perched groundwater was limited.

There is a significant elevation drop in the former lagoon area toward the edges of wetlands east of South Raisin Highway and south of MW102. In the wetland areas, a layer of sandy silt with a thickness between 3 to 8 feet was encountered lying above the sandy soil.

Based on available information, a geological cross section B-B for the former lagoon area is presented in Figure 5.

undwater was encountered at approximately 33 to 35 feet below the grade in the immediate nity of the former lagoon area, at approximately 25 to 26 feet east of the former lagoon area ore the ope to the wetland/Raisin River, and at approximately 1 to 2 feet at the foot of the slope he vicinity of OW-5 and MW104. Surface water was observed in the wetland areas both east of the Raisin Highway and south of MW102.

sed on the groundwater elevations, groundwater flow direction in the former disposal area was vard the southeast and south to the wetland/Raisin River (see Figure 2).

.3 Groundwater Flow Rate and PCE Migration Rate

e average hydraulic conductivity from the slug tests was calculated to be 2.68 x 10⁻³ cm/s at the bject site. Based on the groundwater elevation contour map, the average hydraulic gradient was proximately 0.02 at the subject site (Figure 3). Based on an assumed porosity of 0.3 for fine nd/silty sand (Freeze and Cherry, Ground Water, 1978), the groundwater flow rate at the site was en calculated to be approximately 185 ft/year.

ssuming a soil organic carbon fraction of 0.01, and a bulk mass density of 1.65 g/cm³ for fine /silty and, and assuming a soil organic-water partition coefficient (K_{oc}) of 155 L/kg for PCE (MDEQ RD), the retardation factor for PCE was calculated to be 6.2. The migration rate of PCE in roundwater was then estimated to be approximately 30 feet/year at the subject site.

.2 Preliminary Evaluation of Relevant Exposure Pathways

n terms of groundwater contamination, AHI considers that the following exposure pathways are of concerns at the subject site: (1) groundwater ingestion since the saturation zone at the site is an equifer, (2) groundwater surface water interface (GSI) since the wetland and adjacent Raisin River are receptors of the contaminated groundwater. The risk associated with the groundwater ingestion would be eliminated by restricting the use of groundwater as a drinking water source in the groundwater impact area. Due to the depth to groundwater (greater than 30 feet) in the former drum disposal area and the former lagoon area, the inhalation of vapors from the contaminated groundwater is likely not a concern in the vicinity of these two areas.

n terms of soil contamination, AHI considers that the following exposure pathways are relevant at the subject site: (1) groundwater protection since there is an aquifer at the subject site, (2) GSI protection since the wetlands and adjacent Raisin River are receptor of the contaminated groundwater, (3) indoor inhalation from the contaminated soil, (4) outdoor inhalation from the impacted soil, and (5) direct contact with the impacted soil at the subject site.

Since the Part 201 generic industrial ambient air inhalation criteria for PCE and TCE are greater than the soil saturation screening levels, the outdoor inhalation is therefore not a concern. The risk associated with indoor inhalation, groundwater protection and direct contact could be eliminated or inhalation that are the same as a second of the same and the same are the same as a second of the same are the same as a second of the same are th

3.3.1 Soil Contamination in the former Drum Disposal Area

PCE, TCE, cis-1,2-DCE and trans-1,2-DCE were detected in the soil samples in the former drum disposal area (Table 1). Horizontally, the extent of soil contamination covers an area of approximately 360 feet by 360 feet (Figure 3). This area includes a layer of green fill material at a shallow depth (1 to 3 feet below the grade) (Figure 3). Vertically, the extent of soil contamination extends through the unsaturated zone (approximately 30 to 35 feet thick in the vicinity of the former drum disposal pit).

The maximum PCE and TCE levels were detected in HB6 at 1 to 2 feet in the green fill material at 1,591,000 and 47,115 ppb, respectively. The review of the soil analytical results indicated that the contaminant levels in soil in some locations exceeded the Part 201 generic industrial drinking water screening levels, GSI protection criteria, indoor inhalation criteria, and/or direct contact criteria Groundwater Contamination in the former Drum Disposal Area (Table 1).

3.3.2

Although PCE and TCE were detected in the soil in the unsaturated soil zone, the groundwater in the former drum disposal area did not encounter high levels of PCE and TCE. This might be because the green fill material is hydrophobic, adsorbs organics such as PCE and TCE, and therefore substantially reduces the leachability of these compounds. Based on the depth to groundwater, M-4S wallrilled to intercept the water table. M-4S only detected 280 ppb of PCE and 61 ppb of TCE (Table 2). MW105 was drilled south of the former drum disposal pit and only detected 100 ppb of PCE and 24 ppb of TCE (Table 2). The downgradient monitoring well MW105 had a PCE level at 100 ppb and a TCE level at 24 ppb (Table 2). The PCE level in MW101 was above the Part 201 generic industrial GSI criteria (45 ppb for PCE).

In the wetland area, the PCE level was detected to be 450 ppb and the TCE level was detected to be 150 ppb in P7 (Table 1). The PCE level in P7 was above the Part 201 generic industrial GSI criteria. The downgradient monitoring well M-5S detected a TCE level at 190 ppb, a cis-1,2-DCE level at 24 ppb, and a 1,1,1-TCA level at 210 ppb, respectively (Table 2). Only 1,1,1-TCA level was slightly above the Part 201 generic industrial GSI criteria (200 ppb for 1,1,1-TCA) in M-5S.

The horizontal extent of groundwater contamination (a narrow plume) has been defined between the former drum disposal area and the wetland downgradient of MW101, based on the analytical results from the monitoring wells and surface water samples.

The detection of TCE and DCEs (degradation products of PCE) (Table 2) indicated that the PCE in groundwater from the source area to the wetlands has degraded and is under natural attenuation processes in this area. Degradation of PCE is evident from wells M-4S to MW101, P8 and M-5S.

3.3.3 Soil Contamination in the former Lagoon Area

The soil borings GP11 and GP12 indicated that residual contamination was present in the fill materials inside the former lagoon (Table 1). The soil contamination was mainly detected in the depth range of 10 to 16 feet below the current ground surface. The maximum levels were detected in GP11 at 10 to 11 feet: 18,865 ppb of 1,1-DCE; 32,480 ppb of cis-1,2-DCE; 16,575 ppb of TCE; and 41,940 ppb of PCE; respectively.

Based on the soil analytical results from the soil samples collected outside the former lagoon, the extent of soil contamination was defined and was limited mainly in the depth range of 10 to 16 feet in the fill materials inside the lagoon. Also, PCE was detected to be 245 ppb in the shallow soil in GP17 at 0.5 to 1.5 feet near a former lagoon outflow point.

The maximum contaminant levels detected in soil samples in the former lagoon area exceeded the Part 201 generic industrial drinking water protection (leaching to groundwater) screening levels, GSI protection criteria, and indoor inhalation criteria (Table 1).

CR while light

3.3.4 Groundwater Contamination in the former Lagoon Area

The shallow perched groundwater in OW-1S and OW-2S in the vicinity of the former lagoon area was impacted (Table 2). The maximum PCE level was detected to be 5,600 ppb in OW-2S, and the maximum TCE level was detected to be 1,100 ppb (Table 2). These levels were above the Part 201 generic industrial drinking water criteria, GSI criteria, and/or groundwater direct contact criteria.

PCE and TCE were detected in OW-4D and MW102 (Table 2). The PCE level in MW102 (3,400 ppb) was above the Part 201 generic GSI criteria (45 ppb for PCE). The groundwater analysis in MW102 indicated that the plume or the contaminants had sunk below the water table in this area. Based on the groundwater flow direction and the contaminant levels in MW103, AHI considers that it is likely that the contaminants identified in OW-4S and OW-4D are from the former lagoon at the subject site.

The groundwater samples collected from the 1-inch diameter monitoring wells and surface water bodies in the wetland areas indicated that PCE, TCE and/or vinyl chloride were detected above the Part 201 generic GSI criteria (Table 2). The maximum PCE and TCE levels were detected in P2-S at 5,880 and 1,042 ppb, respectively (Figure 3). The maximum vinyl chloride level was detected in P4-S at 370 ppb. These levels exceeded the Part 201 generic GSI criteria.

Due to the topographic conditions, the groundwater flow direction was toward both east and south downgradient of MW102 and OW-4D. The wetland areas east of MW102/OW-4D and south of MW102 were impacted.

The detection of TCE and DCEs (degradation products of PCE) (Table 2) indicated that the PCE in groundwater from the source area to the wetlands has degraded and is under natural attenuation processes in this area.



3.4 Conclusions and Recommendations

AHI was retained by Wacker Silicones Corporation to conduct a hydrogeological investigation at the Wacker Silicones Corporation site. The objectives of this hydrogeological investigation were to: (1) evaluate the groundwater contamination downgradient of the former drum disposal area, (2) delineate the soil contamination in the former drum disposal area, (3) evaluate the groundwater contamination downgradient of the former lagoon area, (4) evaluate the residual contamination in the former lagoon area, and (5) provide recommendations for further evaluation and corrective actions.

The hydrogeological investigation was conducted between February 22 and May 20, 1999. During this hydrogeological investigation, AHI (1) drilled 16 temporary monitoring wells, (2) drilled 17 permanent monitoring wells (five 2-inch diameter wells and twelve 1-inch diameter wells), (3) installed 17 geoprobe soil borings, (4) drilled 15 hand auger soil borings, (5) analyzed 101 soil samples, 50 groundwater samples and 16 surface water samples (including duplicate and verification samples), (6) surveyed 31 monitoring wells, (7) measured static water levels from 19 monitoring wells, and (8) conducted slug tests on five monitoring wells.

In summary, this hydrogeological investigation revealed that: (1) soil contamination exceeded the Part 201 generic industrial drinking water protection screening levels, GSI protection criteria and direct contact criteria in the former drum disposal area, (2) groundwater contamination exceeded the Part 201 generic GSI criteria in the downgradient monitoring wells MW101/M-5S and in monitoring well P7 in the wetland area, (3) residual soil contamination exceeded the Part 201 generic industrial drinking water protection screening levels and GSI protection criteria in the former lagoon area, and (4) groundwater contamination exceeded the Part 201 generic GSI criteria in groundwater and surface water downgradient of the former lagoon area and in the wetlands.

This report only presented the findings from AHI's hydrogeological investigation conducted between February 27 and May 10, 1999. AHI will prepare a more comprehensive risk analysis, feasibility study and corrective action plan (CAP) for the subject site.

Atwell-Hicks, Inc. Project No. MA 01910

This report submitted by:

Mao Huang, Ph.D.

Environmental Engineer

William C. Henderson, CPG

Manager, Environmental Services

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Michigan Department of Environmental Quality DE Air Quality Division

FACSIMILE COVER SHEET

To:	Robert Sullivan
Company:	Wacker Silicones
Phone:	
Fax:	
From:	Barb Wilcox
Phone:	(517) 373 2856
Fax:	(517)
E-Mail:	
Date:	3-2-99
Pages:	(including this cover page)
Comments:	
Robert-	
The	info you requested.
Hope this h	elps. It you
have any	guestion 5 - Dlease
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WACKER SILICONES COR	A2849	158	97			0 330	SUTTON ROAD	ADRIAN	0	4/15/98		

at the 3301 Sutton Rd

Address -



EAD 303387
Dirs Signature
Dui 3/2 or as approps
Run through wath

February 12, 1999

Xc. Dir | T.F 3/2

Russell Harding, Director Michigan Department of Environmental Quality P.O. Box 30473 Lansing, MI 48909-7973

Dear Director Harding,

We're writing to urge you to deny Clean Corporate Citizen status to Wacker Silicones of Adrian. Granting C3 status to a company which has consistently neglected its stewardship responsibilities to address groundwater contamination would further undermine a troubled "pollution prevention" program and send new signals that DEQ is not serious about compliance and enforcement.

Documents we have found in files of the Environmental Response Division demonstrate:

- Recent testing shows elevated levels of tetrachloroethene, trichloroethene, vinyl chloride and several other chemicals in groundwater under property owned by Wacker Silicones. The flow of groundwater at the site may be resulting in discharges of the chemicals into the Raisin River, an area of concern designated by the International Joint Commission.
- The then-DNR issued a notice of violation to the company in February 1980 for unauthorized surface and groundwater discharges of TCA.
- DNR staff determined a cap over a "black pond" area of contamination was inadequate in 1985 but "no actions resulted to the best of our knowledge" after a request for correction was communicated to the company.
- In 1995 DEQ requested an update on the investigation and cleanup of the site, but none was ever received.
- In November 1998, DEQ notified the company of its obligations as a liable party under Part 201, finally prompting an initial response from the company. "The upcoming six to twelve months will provide our next opportunity to clearly judge Wacker's compliance with their Part 201 obligations," according to an internal DEQ memo.

Aside from the C3 designation, there are other serious issues associated with this company's groundwater contamination problem. It is arguable that the company is in violation of 1995 amendments to Part 201 of the Natural Resources and Environmental Protection Act which require parties to diligently pursue actions to contain or clean up contamination on site. The company has had more than three years since the amendments were enacted to diligently pursue response activities, but in the judgment of your staff has failed to do so. Rather than lauding this company, DEQ should be undertaking enforcement action.

A critical flaw in the C3 designation process raised by this facility, as well as the Presque Isle Power plant in Marquette, is that companies with significant adverse environmental impacts can win the misleading designation of "clean." In the case of Wacker Silicones, it's clear your agency is far from satisified with the company's reponse to nearly two decades of confirmed groundwater contamination – but because the Environmental Response Division does not issue "notices of violation" there are no criteria in the C3 program rules which the company has explicitly violated. We strongly urge you to revise the proposed revised C3 rules to require that a company be in compliance with applicable provisions of Part 201, including but not limited to due care responsibilities.

Notwithstanding this unfortunate gap in the rules, you have every reason and authority you need to deny C3 designation to Wacker Silicones in order to protect public health, safety and welfare. Granting the designation will imply to others that they may not only scoff at DEQ remedial action requests, but may actually win special environmental recognition while doing so. This hardly seems the result you intended when the C3 program was launched.

Sincerely,

Dave Dempsey

Policy Director

INTEROFFICE COMMUNICATION

January 12, 1999

TO: SWS (Wacker) Silicones File, Lenawee Co.

FROM: R. Dowe Parsons, Asst. District Supervisor, Jackson

Environmental Response Division

SUBJECT: January 5, 1999 Meeting

Gary Klepper and I met with representatives on January 5, 1999 to discuss their Part 201 compliance progress and anticipated site work. In attendance for Wacker / ortacts were:

Tom Urbonowski Director of Engineering

Sharron Etter **Director of Regulatory Affairs**

Tom Degnan Vice President of Human Resources

Bob Sullivan Regulatory Affairs

James Barancin Vice President of Operations

Craig Rogerson President & CEO William Henderson Atwell-Hicks

We discussed the Clean Corporate Citizen designation review process whereby EAD will ask ERD about Part 201 compliance. We also discussed changes to Part 201 and highlighted the Section 14 (1) obligations. Gary indicated that we have no information in our files to indicate that Wacker had diligently pursued response actions to achieve closure since June 5, 1995. We invited them to submit any information they may have documenting compliance to us for consideration in the Clean Corporate Citizen review. We emphasized that the Section 14(1) duties were affirmative obligations of Wacker and did not require specific notice from us.

Gary suggested that an AOC may be a way for them to formally address their Part 201 compliance obligations. This would include a schedule for completion of RI/FS and RAP development. We agreed to see about forwarding a model AOC to them for review as Mr. Roderson seemed interested in this approach.

Wacker discussed the proposed well installation which they believed would complete groundwater investigation. It should be noted that we previously commented on this plan, and we did not believe it to be adequate to complete an RI for groundwater. The vertical extent of groundwater contamination and appropriate GSI monitoring points need to be addressed I pointed out to Mr. Henderson that soil and source investigations would be required in order to address all the relevant exposure pathways Which need to be addressed in a RAP. Down Kusar

RDP:kl

SUS Silicones

General comments:

In an ideal situation one would expect the Raisin River to act as a hydraulic bearier to groundwater flow (assuming the river is a "gaining" river which the Raisin River appears to be). In other words, one would expect groundwater at this site to discharge to the Raisin River. However, that being said, there are expect groundwater at this site to discharge to the Raisin River. However, that being said, there are expect groundwater at this groundwater flow would travel beneath the river and not discharge as expected.

First, if discontinuous silt and clay layers exist beneath the riverbed, groundwater from saturated zones beneath these layers may not discharge to the river as expected. Since the vertical extent of contamination and geology beneath and adjacent to the river are unknown, this possibility cannot be discounted.

Second, the possibility exists that a groundwater extraction well located on the opposite side of the river from the impacted area may draw groundwater beneath the river to the extraction point. Factors that would need to be considered in this scenario include the groundwater extraction rate, local hydraulic conductivity, need to be considered in this scenario include the groundwater extraction rate, local hydraulic conductivity, need to be considered in this scenario include the groundwater extraction of impermeable layers and extraction well proximity to the river, and geology (existence of, and location of impermeable layers and there proximity to the well extraction zone).

Wacker Silicones Corporation





For Internal Use only!

Subject: Effluent Treatment System Description

Instruction No: UO-0060

Effective of: 10-30-98

Page: 1 of 16

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Scope:

This Instruction provides an overview of the Effluent Water Treatment Systems, including major components, processes and flow paths in the Chemical Sewer, Storm Sewer, and Sanitary Sewer systems.

Responsibilities:

N/A

nanges from previous revision:

Revised for MOC #209, Sand Filter and UV Sterilizer Piping Flow changes.

Distribution:

Utility Manual

Blank Forms, Records, Flowcharts, Appendices

None

Subject: Effluent Treatment System Description

For Internal Use only!

Instruction No: UO-0060

Effective of: 10-30-98

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3.1 Description

3.2 Design Data

3.3 Equipment List

3.4 Specification Sheets

3.5 Hazards/Lockout Instructions

4.0 Storm Sewer System

4.1 Description

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Appendix A - PM List

Appendix B - Drawing List

Subject: Effluent Treatment System Description

For Internal Use only!

Instruction No: UO-0060

Effective of: 10-30-98

Page: 3 of 16

Procedure/Instructions:

1.0 System Overview

The Effluent Water Treatment System includes sewer systems and processes to ensure proper treatment of all wastewater from the Wacker Silicones site. Also included are appropriate controls to assure compliance with Surface Water Regulations, and treated effluent water discharges to a receiving body of water. The following systems are in place for water control and cleanup prior to release:

- <u>Chemical Sewer:</u> All Plant and Technical Center wastewater is emptied into the Chemical Sewer for treatment, or transferred to TK0062 for digestion and then decanted to the Chemical Sewer.
- Storm Sewer: Rain water is directed to storm drains by culverts and grading, and is directed to the PIPP Pond by the Storm Sewer drain tiles. The PIPP Pond is an impoundment without surface water discharge. The PIPP Pond water may be transferred to the Cooling Ponds and used as a low TDS source of makeup water, or pumped directly to the Chemical Sewer to control the level. However, the PIPP Pond will not be allowed to overflow untreated into the 001 Outfall.
- <u>Sanitary Sewer:</u> All sanitary wastewater is directed to the Sewage Treatment Plant located outside the API Building (BG4046). Here the sewage is treated, and the clean treated effluent from the plant is transferred to the Chemical Sewer for processing as normal wastewater.

2.0 Chemical Sewer System

The Chemical Sewer System is a collection and treatment network which utilizes filtering, separating, clarifying, and sterilizing equipment to purify wastewater from various plant processes. The Chemical Sewer has two branches; one from the Plant and one from the Technical Center. These two lines are connected just north of the API Building (BG4046). The Chemical Sewer line from the Plant originates at the Hibay Hotwell and the HCR Chiller / Scrubber room, and drains to the API Oil Separator Pit in the API Bldg., BG4046. The water is transferred to TK0061 (or the Chemical Stabilization Pond), to the Dissolved Air Floatation Clarifier, to the Sand Filter, to the UV Sterilizer, and then through the Outfall Monitoring Flume and to the Raisin River.

2.1 Description

API Building (BG4046)

The Chemical Sewer drains into the API Oil Skimming System, a pit where oil is removed by a belt skimmer. The waste oil is removed to a receiver tank, then transferred to waste containers and moved to the DSA storage areas to await recycling.

The effluent water from the Oil Skimming System is then pumped (by two pumps) to Tank TK0061, or bypassed to the Chemical Stabilization Pond. These two pumps are located on the deck grating at the Oil Separator Pit. The pumps (PP006501/02) are rated at 300 gpm and develop about 20 - 25 psi discharge pressure.

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2.1 Description

API Building (cont'd)

The Chemical Stabilization Pond is currently out of service, and is used only as a backup surge reservoir for storing wastewater during upset or off normal conditions.

Tank TK0061 is used as a surge tank, and the level is kept near the middle of the tank by an automatic valve and level control instrumentation. Water is pumped from Tank TK0061 to the Dissolved Air Floatation (DAF) Unit in the API Building. The DAF uses a dilute hydrochloric acid flocculant, and polymer coagulant, to remove suspended solids in the wastewater stream. Normal chemical feed rates for DAF chemicals are as follows:

Flocculant Mitfloc 5623L feed at 9 gpd @ 0.030 - 0.040 MGD effluent flow Coagulant Mitfloc 5137E feed at 8 gpd @ 0.030 - 0.040 MGD effluent flow

However, optimum feed rates will best be determined by jar testing, and system performance.

The DAF uses compressed air to create millions of microscopic bubbles to lift the coagulated flock to the water surface, where a blade skimmer removes the flock to a Scum Tank.

The effluent water from the DAF is transferred to to a Sand Filter to remove any suspended solids carryover. The effluent flow from the Sand Filter is then pumped to an Ultra-Violet (UV) Sterilizer, which kills bacteria and biological material in the water. Water then gravity drains to the Parshall Flume, where flow rate, pH, and temperature are measured, and where a composite sampler extracts water to be analyzed for state reporting. The flume is normally discharging to the Outfall 001 Weir, through a lagoon, and into the Raisin River. Normal flow rates for Outfall 001 are between 0.025 and 0.120 MGD.

Bypass piping is installed at the Flume to allow recycling of processed wastewater back to the API Pit where it is recycled to TK0061, or to the Chemical Stabilization Pond if necessary. The Chemical Stabilization Pond serves as a buffer to store a volume of water (about 1.5 million gallons) when needed. A lift pump is installed to transfer water from the Chemical Stabilization Pond directly to the DAF for treatment. Waste sludge from the DAF is pumped to a holding pit for dewatering in the Rotary Vacuum Filter.

A Rotary Vacuum Filter located at the API Building is used to de-water this sludge prior to disposal.

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2.1 Description (cont'd)

Green Tank Building (BG4044)

All chemical wastewater from the site passes through the Green Tank Building. Three independent processes are performed there to remove various types of contaminants:

- Normal wastewater transfer flow: Tank TK0061 is used as a surge tank, and continuously receives chemical wastewater pumped from the API Building. Wastewater is constantly being letdown from TK0061 to the DAF for treatment. Level sensing instruments are installed for this tank, which generate alarms in the Green Tank Building (BG4044) on high and low (18' 10') level. An automatic valve and level controller adjust the letdown flow from TK0061 to maintain a desired level in the tank. The level in TK0061 is normally kept at about half full (145" or 200,000 gal.). A dedicated 500 gpm pump (PP006101), located in the Green Tank Building, is aligned for constant letdown from, and recirculation to TK0061.
- <u>Hi BOD Digestion</u>: This process occurs in TK0062 to remove BOD, COD, Ammonia, and Phosphorus in certain wastewater. An MTS Aerator system, including a dedicated 2500 gpm pump, Low Pressure Air Blower, and an Aerator Diffuser Pod are permanently aligned to aerate this tank. Aeration provides dissolved oxygen to the wastewater allowing growth of an active bacteria colony which uses contaminants in the water for food. CO₂ is given off as a byproduct. High BOD wastewater from the Plant is transferred to one of two 4000 holding tanks (TK006202), then to TK0062. A dedicated 500 gpm pump (PP006201), located in the Green Tank Building, is aligned for making transfers of high BOD wastewater from either of two 4000 gallon tanks to TK0062.
- <u>Digested Wastewater Decant:</u> As organic digestion and oxidation progresses, sample analysis is performed to verify water quality. When digestion has been completed, sample analysis will also be used to determine allowable letdown rates from TK0062 to the Chemical Sewer. A small Teal Pump and a pipeline from the Green Tank Building to the API Building is used to transfer water from TK0062 to the Chemical Sewer waste water treatment system. Wastewater can be let down directly to the DAF for treatment and suspended solids removal, into the Oil Skimmer Pit to the Chemical Sewer, or to the 2000 gallon waste sludge pit. Digested wastewater may also be transferred directly from TK0062 to TK0061 through piping between the two tanks if necessary.

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2.1 Description (cont'd)

Water Collection and Separation

High BOD Chemical is transferred from Plant departments to TK0062 for digestion, and Low BOD wastewater is transferred to TK0061 and discharged back to the Chemical Sewer for normal treatment. The two Plant wastewater streams and treatment systems are defined in the following Paragraphs:

TK0061 - Low BOD: The Chemical Sewer wastewater flows (as follows) will be pumped to TK0061 after processing through the API Oil Skimmer Pit.

- Boiler Blowdown, Water Softener backwash, R.O. Unit reject (concentrate), and Cooling Water leakage/drainage from the Boiler House drained to Chemical Sewer.
- Chemical Sewer discharges from Polymers; (Vacuum Decant system, Lab discharges, etc.)
- Hibay non-ammoniated discharge to Hotwell under normal operating conditions.
- API Pit effluent, which includes the Chemical Sewer flow and Sanitary Sewer Treatment System effluent.
- Clarified Decant water from TK0062 after Ammonia and BOD digestion.

<u>TK0062 - High BOD:</u> The following wastewater is classified as High BOD and will be transferred to TK0062, or to the Waste Water Pretreatment Tanks TK006201 (or 02), and then into TK0062.

- Transfers from HCR; (Fume Scrubber, Decant, Mixer Lites, etc.)
- Transfers from Hibay (Emulsion waste and reactor washouts through TK006202 to TK0062, and Floor Scrubber water through TK006201 to the Chemical Sewer).
- Hibay Chemical Sewer from Hotwell during S-8 production, or other (possibly) highly ammoniated discharges are to go to TK0062.

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2.2 Design Data

The following is a list of parameters for treated effluent discharge that are monitored for compliance with out NPDES permit, and the associated limits imposed by the permit. The permit is issued by Michigan's Department of Environmental Quality (MDEQ).

	Lb./da	<u>y (30 day avg.)</u>	<u>mg/l (</u> :	<u>30 day avq.`</u>) <u>Ot</u> l	<u>ner</u>
	Min.	Max.	Min.	Max.	<u>Min.</u>	Max.
Dissolved Oxygen			4.0			
BOD-5 day	97.3(3	7.1)				
рH					6.5	9.0
Total Suspended Solids		147.4(46.6)		45(30)		
Ammonia, as N₂		3.5		3.0		
Total Phosphorus, as P				(1.0)	(30 d)	ay avg.)
Xylene (VOC's)	R	leport(Report)	R	eport(Repo	rt)	
Flow					Repo	rt MGD
Total Dissolved Solids			R	eport(Repo	rt)	
Fecal Coloforms				400(200)	color	nies
BOD, Carbonaceous		37.4		32		
Daily Outfall Observation					yes-r	10

Equipment Design Data

The effluent treatment process is capable of treating about 150,000 gallons per day. Normal flow rates are usually much less than this, however. Please refer to the individual EOI's for specific equipment ratings.

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2.3 Equipment List

Entity Number	Туре	Description
FT0067	MEQ	EFFLUENT SAND FILTER
ME0064	MEQ	DISSOLVED AIR FLOTATION SYSTEM
ME0065	MEQ	API OIL SKIMMING SYSTEM
ME0066	MEQ	ROTARY VACUUM FILTER SYSTEM
ME0067	MEQ	CHEMICAL SEWER SYSTEM
TK0061	MEQ	EFFLUENT SURGE TANK
TK0062	MEQ	EFFLUENT DIGESTION TANK
TK0067	MEQ	EQUALIZATION POND
UV0064	MEQ	ULTRA VIOLET UNIT
BL0062	EQ	AERATOR POD BLOWER
CR0064	EQ	DAF AIR COMPRESSOR
PP006101	EQ	TK0061 GREEN TANK PUMP
PP006104	EQ	BG4044 BACKUP SUMP PUMP
PP006105	EQ	BG4044 ELECTRIC SUMP PUMP
PP006201	EQ	TK0062 GREEN TANK PUMP
PP006202	EQ	MTS AERATOR CIRCULATION PUMP
PP006203	EQ	GREEN TANK LETDOWN PUMP
PP006502	EQ	API PIT LIFT PUMP - EAST
PP006503	EQ	API PIT LIFT PUMP - WEST
PP0068	EQ	PIPP POND LIFT PUMP
SK0065	EQ	API "BELT" OIL SKIMMER
TK006201	EQ	WASTE WATER PRETREATMENT TANK - NORTH
TK006202	EQ	WASTE WATER PRETREATMENT TANK - SOUTH
TK006501	EQ	API OILY WASTE HOLDING TANK
TK006502	EQ	API SLUDGE & SOLIDS HOLDING TANK
AG006101	CO	TK0061 AGITATOR (LEFT-NW)
AG006102	CO	TK0061 AGITATOR - (MIDDLE-W)
AG00610	CO	TK0061 AGITATOR - (RIGHT-W)
AG006401	CO	5137E POLYMER EMULSION TANK AGITATOR
AG006601	CO	ROTARY VAC PRECOAT SLURRY TANK AGITATOR
AG006602	CO	ROTOVAC FILTERED WATER TANK AGITATOR
AG006602	CO	ROTOVAC FILTERED WATER TANK AGITATOR
AG006603	CO	ROTOVAC PRECOAT SLURRY TANK AGITATOR
AG006701	CO	API POND AERATOR - NORTH
AG006702	CO	EFFLUENT SAND FILTER OUTLET
AG006702	CO	API POND AERATOR - SOUTH
AG006703	CO	API POND AERATOR - SPARE

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2.3 Equipment List (cont'd)

Entity Number	Туре	Description	
BL006601	CO	ROTARY VACUUM LIQUID RING BLOWER	
FT006601	CO	ROTARY VACUUM FILTER DRUM	
PP006401	CO	DAF OUTLET BOOSTER PUMP	
PP006402	CO	SCUM TANK PUMPOUT PUMP	
PP006403	CO	DAF RECIRCULATION PUMP	
PP006405	CO	5137E POLYMER METERING PUMP	
PP006406	CO	5623 CHEMICAL METERING PUMP	
PP006501	CO	API OIL WASTE TANK TRANSFER PUMP	
PP006601	CO	ROTARY VAC SOLIDS FEED PUMP	
PP006602	CO	RVFS FILTERED WATER TANK RECEIVER	
PP006603	CO	ROTARY VAC WASHDOWN PUMP	
PP006604	CO	ROTARY VACUUM BLOWER SEAL WATER PUMP	
PP006701	CO	EQUALIZATION POND LIFT PUMP	
PP404601	CO	BLDG. 4046 CONDENSATE PUMP (SARCO)	
SK006401	CO	DAF SKIMMER	
TK006401	CO	DAF FLOAT TANK	
TK006402	CO	DAF SCUM TANK	
TK006403	CO	DAF AIR ABSORBER TANK	
TK006404	CO	DAF COAGULATION TANK	
TK006405	CO	5137E POLYMER EMULSION TANK	
TK006406	CO	5623L DILUTE AQUEOUS HCL TANK	
TK006407	CO	DAF AIR COMPRESSOR RECEIVER TANK	
TK006601	CO	ROTARY VACUUM DRUM TANK	
TK006602	CO	ROTARY VACUUM FILTERED WATER TANK	
TK006603	CO	ROTARY VACUUM PRECOAT SLURRY TANK	
TK006604	CO	ROTARY VACUUM BLOWER SEAL WATER TANK	
TK006605	CO	ROTARY VACUUM SEPARATOR TANK	
EP006401	ECO	DISSOLVED AIR FILTER (DAF) CONTROL	
EP006601	ECO	ROTARY VACUUM SYSTEM CONTROL PANEL	
LP0324	ECO	BLDG. 4046 LIGHTING PANEL	
LT404401	ECO	LP404401 TRANSFORMER	
LT404601	ECO	LP404601 TRANSFORMER	

2.4 Specification Sheets

Spec. Sheets are available.

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2.5 Hazards/Lockout Instructions

The table below lists known hazards in the Effluent Treatment System. Review the table below and ensure that you have locked out all applicable hazards prior to beginning work.

Type of work and lockout points required:

Work on an individual pump:

Lock/Tag the pump discharge valve closed.

Open and lock/tag the Power Supply

Work on DAF, or chemical injection pumps or lines

Lock/Tag the Chemical Storage Tank isolation valves closed

Lock/Tag all piping isolation valves closed Open and lock/tag the Power Supply

Work on a Tank:

Lock/Tag all penetration valves closed, or break lines.

Open and lock/tag any Power Supply for tank equipment.

Follow Confined Space Entry Procedures.

·			
Lockout	Hazard	What to Lockout	Test
1	Electrical Shock (480VAC Power) Mechanical Rotation	Pump Work, Aerator work, Agitator work: Lock/tag Open Breaker at MCC.	Push start button, ensure pump does not start
2	Electrical Shock (480VAC Power) Mechanical Rotation	Belt Skimmer SK0065 Lock/tag Open Breaker at MCC.	Push start button, ensure motor does not start
3	Confined Space	All Tanks: Follow Confined Space Entry Permit Procedure, Break conns.	Test Atmosphere for breathability
4	Chemical	Pull plug on chemical injection pump and tag. Wear PPE	Check pump is not plugged in.
5	Chemical/Stored Energy	Bleed pressure from chemical injection lines and leave line open	
6	Compressed Air:	Lock/tag Open 480 VAC Breaker at MCC. Depressurize Tank and lines.	
6	Electrical Shock (480VAC Power) Mechanical Rotation	Open Rotovac Filter ME0066 Breaker at MCC.	Push start button, ensure filter does not operate.
7	Biological Hazard	Wear PPE, use good hygiene in work practices. Wash hands when finished.	Push start button, ensure filter does not operate.

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3.0 Sanitary Sewer System

The Sanitary Sewer system directs sewage wastewater to the "Chicago" type Package Plant, located outside the API Building (BG4046). The sanitary waste is aerated, digested, and clarified, then transferred into the Chemical Sewer for processing as normal wastewater. The resulting sludge is "wasted" to an adjacent holding tank.

3.1 Description

"Chicago" Type Package Sewage Treatment Plant

The Chicago Plant is manufactured by Chicago Pump Co., and is rated at 15,000 gallons per day of influent flow. This is also rated for 10 to 400 people by the manufacturer. It is a relatively self-sufficient operation, and requires minimal daily maintenance.

The influent flow of sewage is first chopped by the comminuter, then emptied into the aeration tank. The wastewater is aerated in this tank, which substantially increases dissolved oxygen in the fluid in the tank, or "mixed liquor". Two low pressure air blowers are installed, with one normally operating. The mixed liquor in the aeration tank is allowed to circulate and bacteriologically digest for a sufficient period of time. The water then trickles into the clarifier and the remaining suspended solids settle out. The clear effluent water from the Chicago Plant is then piped into the API Oil Separator Pit and processed as chemical wastewater.

3.2 Design Data

Plant Rating:

15,000 gallons/day or 10 - 400 people

3.3 Equipment List

Entity Number	Type	Description
TK006301	EQ	CHICAGO SEWAGE TREATMENT TANK
TK006302	EQ	SANITARY PLANT SOLIDS BLOWDOWN TANK
BL006301	CO	SEWAGE TREATMENT PLANT BLOWER - EAST
BL006302	CO	SEWAGE TREATMENT PLANT BLOWER - WEST
ME006301	CO	SEWAGE TREATMENT PLANT SOLIDS GRINDER

3.4 Specification Sheets

Spec. Sheets are available.

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3.5 Hazards/Lockout Instructions

The table below lists all the known hazards in the Sanitary Sewer System. Review the table below and ensure that you have locked out all hazards prior to beginning work.

Type of work and lockout points required: Any work on Sanitary Sewer, or Chicago Plant - 4 Work on an individual pump: 1, 2, or 3, <u>AND</u> 4.

Lockout	Hazard	What to Lockout	Test
1	480VAC Power	Blower BL006301, Open Breaker at MCC and lock/tag.	Push start button AND ensure Blower does not start
2	480VAC Power	Blower BL006302, Open	Push start button AND
		Breaker at MCC and lock/tag.	ensure Blower does not start
3	480VAC Power	Grinder ME006301, Open Breaker at MCC and lock/tag.	Push start button AND ensure Grinder does not start
4	Biological Hazard	Wear PPE, use good hygiene in work practices. Wash hands when complete.	

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4.0 Storm Sewer System

A sewer system directs all storm runoff water to the PIPP Rainwater collection Pond, located to the West of the API Building (BG4046). The rain water is accumulated in the PIPP pond. It is used as a low TDS source of makeup water for the Cooling Water Ponds and is periodically pumped to the ponds as needed. The PIPP Pond is pumped to the Cooling Water Ponds, or the API Stabilization Pond as necessary to maintain the PIPP Pond level below the overflow point.

4.1 Description

The Storm Sewer and Storm Water System is a network of dikes, culverts, drainage ditches, grading and swail contour, and drain tiles. The sewer tiles are piped into the PIPP Pond, where all surface water is contained. Storm water is reused for Cooling Water makeup, or discharged to the Chemical Sewer to be released after treatment as chemical wastewater.

Storm Water General Permit #MIR23J014

In compliance with the provisions of the Federal Water Pollution Control Act, and Michigan Act 245, PA 245, for discharge of storm water from a location associated with an industrial activity, Wacker Silicones Corporation applied for a Storm Water General Permit on August 22, 1994, and was issued a Permit from the Surface Water Quality Division of the Michigan DEQ, with the Permit going into effect on December 5, 1994.

This Permit will expire at midnight on January 13, 1999. The purpose of this Permit is to comply with the Federal and State Requirements of the Federal Water Pollution Control Act, and Michigan Act 245, PA 245

4.2 PIPP Pond, and Storm Water Permit Requirements

In order to fully comply with the Storm Water General Permit, the following requirements and timetable have been established:

Requirement	Due Date	<u>Status</u>
WSC is to have at least one certified storm water operator	December 5, 1995	Complete
WSC Storm Water Pollution Prevention Plan developed	June 5, 1996	Complete
Structural Provisions of Plan implemented	December 5, 1997	Complete

4.3 Design Data

Storm Sewer Flow RatesBasically Unlimited.

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4.4 Equipment List

Entity Number	Type	Description
ME0068	MEQ	STORM SEWER SYSTEM
TK0068	MEQ	STORMWATER-PIPP POND
PP0068	EQ	PIPP POND LIFT PUMP

4.5 Specification Sheets

Spec. Sheets are available.

4.6 Hazards/Lockout Instructions

The table below lists all the known hazards in the Storm Sewer System. Review the table below and ensure that you have locked out all hazards prior to beginning work.

Type of work and lockout points required:
Work on pump: 1

Work on pump: 1.

Lockout	Hazard	What to Lockout	Test
1	480VAC Power	Blower PP0068, Open Breaker	Push start button AND
		at MCC and lock/tag.	ensure Blower does not start

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Appendix A Preventative Maintenance Tasks

None

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Appendix B Drawing Lists

Piping and Instrument Diagrams (P&ID's)

1.	00611012	Green Tank System P&ID
2.	00631012	Sanitary Sewer System P&ID
3	00641014	DAF Skimming System P&ID
4.	00661012	Rotary Vacuum Filter P&ID
5.	00671012	Chemical Sewer System P&ID
6.	00681012	Storm Sewer System P&ID



JOHN ENGLER, Governor

REPLY TO:

AIR QUALITY DIVISION PO BOX 30260 LANSING MI 48909-7760

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment" HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us
RUSSELL J. HARDING, Director

April 24, 1998

Mr. Robert O. Sullivan, Administrator Environmental Regulations Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

Dear Mr. Sullivan:

J. Baranin
R. Moskal
B. Weekley
W. Wells
G. Metcl

Will set up meeting
to review permissingum

This letter is in reference to your Permit to Install applications for the "HiBay" and "RTV" production areas for manufacturing silicones located at 3301 Sutton Road, Adrian, Michigan. These applications, identified as No. 158-97 and 597-81B, respectively, have been evaluated and approved by the Air Quality Division, pursuant to the delegation of authority from the Michigan Department of Environmental Quality.

This approval is based upon and subject to compliance with all administrative rules of the Department and conditions stipulated in the attached supplement. Please review these conditions thoroughly so that you may take the actions necessary to ensure compliance with all of these conditions.

You are advised that contaminants discharged to the surface waters and/or groundwaters; materials disposed of on land; hazardous waste storage, treatment, and disposal; and resource recovery facilities must be approved by other divisions of the Department of Environmental Quality. Additionally, your plant environment must be in compliance with all applicable requirements of the Departments of Community Health and Consumer & Industry Services.

Also, the following Permits to Install have been voided because the equipment is now covered by the corresponding permits or the equipment no longer exists:

Permit No.	Status
265-73	Equipment (process) no longer exists.
210-75	Equipment is now covered by Permit to Install No. 158-97.
210-75A	Equipment is now covered by Permit to Install No. 158-97.
210-75B	Equipment is now covered by Permit to Install No. 158-97.
210-75C	Equipment is now covered by Permit to Install No. 158-97.
210-75D	Equipment is now covered by Permit to Install No. 158-97.
210-75E	Equipment is now covered by Permit to Install No. 158-97.
441-75	Equipment (boilers) is exempt under Rule 282(b)(i)
375-76	Equipment is now covered by Permit to Install No. 565-96.
375-76A	Equipment is now covered by Permit to Install No. 565-96.
957-79	Equipment is now covered by Permit to Install No. 158-97.
957-79A	Equipment is now covered by Permit to Install No. 158-97.

Permit No.	Status
957-79B	Equipment is now covered by Permit to Install No. 158-97.
957-79C	Equipment is now covered by Permit to Install No. 158-97.
37-81	Equipment is now covered by Permit to Install No. 525-82B.
494-81	Equipment (process) no longer exists.
597-81A	Equipment is now covered by Permit to Install No. 597-81B.
525-82	Equipment is now covered by Permit to Install No. 525-82B.
378-88	Equipment is now covered by Permit to Install No. 158-97.

Please note that the following associated Permits to Install you mentioned in your permit applications were previously voided as follows:

Permit No.	Void Date
211-75	August 10, 1994
<i>777-</i> 81	August 26, 1997
597-81	December 12, 1989
658-81	March 25, 1985
383-82	August 10, 1994

Please contact me if you have any questions regarding these permits.

Sincerely,

Nicholas P. Zabrodsky

Micholas P. Zalerodoly

Senior Engineer

Chemical Process Unit

Permit Section

Air Quality Division

517-373-4921

NPZ:clk Attachments

cc: Jack Larsen, District Supervisor

SUPPLEMENT TO PERMIT NO. 597-81B

Wacker Silicones Corporation Adrian, Michigan

April 15, 1998

GENERAL CONDITIONS

- 1. Rule 201(1) The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule.
- 2. Rule 201(4) If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the person to whom this permit was issued, or the designated authorized agent, shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install.
- 3. Rule 201(6)(a) If this Permit to Install is issued for a process or process equipment located at a stationary source which is subject to a Renewable Operating Permit pursuant to Rule 210, trial operation is allowed if the equipment performs in accordance with the terms and conditions of this Permit to Install and until the appropriate terms and conditions of this Permit to Install have been incorporated into the Renewable Operating Permit as a modification pursuant to Rule 216 or upon renewal pursuant to Rule 217. Upon incorporation of the appropriate terms and conditions into the Renewable Operating Permit, this Permit to Install shall become void.
- 4. Rules 201(7)(a) or 216(1)(a)(v)(A) Except as provided in General Condition No. 3, operation of the process or process equipment is allowed if, not more than 30 days after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this Permit to Install was issued, or the authorized agent pursuant to Rule 204, notifies the District Supervisor, Air Quality Division, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, alteration, or modification is considered to occur not later than commencement of trial operation of the process or process equipment.
- 5. Rule 201(7)(b) Except as provided in General Condition No. 3, not more than 18 months after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this permit was issued, or the authorized agent pursuant to Rule 204, shall notify the District Supervisor, Air Quality Division, in writing, of the status of compliance of the process or process equipment with the terms and conditions of the Permit to Install. The notification shall include all of the following:
 - A. The results of all testing, monitoring, and recordkeeping performed to determine the actual emissions from the process or process equipment and to demonstrate compliance with the terms and conditions of the Permit to Install.
 - B. A schedule of compliance for the process or process equipment as described in Rule 119(a).

Wacker Silicones Corporation Permit No. 597-81B Page 2 April 15, 1998

- C. A statement, signed by the person owning or operating the process or process equipment, that, based on information and belief formed after reasonable inquiry, the statements and information in the notification are true, accurate, and complete.
- 6. Rule 201(8) and Section 5510 of Act 451, P.A. 1994 The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Departments' rules or the Clean Air Act.
- 7. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required in Rule 219(1)(a), (b) and (c). The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality.
- 8. Rule 901 Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
- 9. Rule 912 The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the District Supervisor within 10 days, with the information required in this rule.
- 10. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future regulations which may be promulgated under Part 55 of Act 451, P.A. 1994.
- 11. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
- 12. Operation of this equipment may be subject to other requirements of Part 55 of Act 451, P.A. 1994, and the rules promulgated thereunder.

Wacker Silicones Corporation Permit No. 597-81B Page 3 April 15, 1998

SPECIAL CONDITIONS

EMISSION RATE LIMIT

- 13. The volatile organic compound (VOC) emission rate from the RTV production area of the silicone products manufacturing processes, hereinafter "RTV area", having mixer numbers MX0208, MX0217, MX0228, MX0219, and MX0257 all being tied into a scrubbing system air pollution control device, hereinafter "control", shall not exceed 1.1 pounds per hour nor 4.4 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 14. The naphtha and mineral spirits emission rates each shall not exceed 0.4 pound per hour nor 1.6 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 15. The siloxanes emission rate from the RTV area shall not exceed 11.0 pounds per hour nor 48.0 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 16. The polydimethylsiloxandiol and polydimethylsiloxane emission rates shall not exceed 8.9 pounds per hour nor 39.0 tons per year and 2.1 pounds per hour nor 9.2 tons per year, respectively, based on a 12-month rolling time period as determined at the end of each calendar month.
- 17. The particulates emission rate from the processes and control shall not exceed 0.45 pound per hour nor 2.0 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 18. Rule 331 The particulates emission from the processes and control shall not exceed 0.10 pound per 1,000 pounds of exhaust gases, calculated on a dry gas basis.

TESTING, MONITORING, AND RECORDKEEPING

19. Rules 1001, 1003 and 1004 - Verification of VOC, silicones, particulates, and/or ammonia emission rates from the processes and control by testing, at owner's expense, in accordance with Department requirements, may be required. The testing shall be conducted within 60 days following the receipt of the written notification of the requirement. Verification of emission rates includes the submittal of a complete report of the test results. If testing is required, a complete test plan must be submitted to the Air Quality Division. The final plan must be approved by the Division prior to testing and a complete report of test results must be submitted to the Division within 60 days following the last date of testing.

Wacker Silicones Corporation Permit No. 597-81B Page 4 April 15, 1998

20. The individual VOC and siloxane emission rates shall be calculated according to the following equation:

pollutant	[(100 - %Yield)/100] x (Raw Material Usage Rate)[lbs/batch]
emission =	
rate [lbs/hr]	Batch Cycle [hrs/batch]

The raw material usage rates, percent reaction yields, and batch cycles data and a monthly summary of this calculation for each individual VOC and siloxane shall be kept on file for at least five years and made available to the Air Quality Division upon request.

- 21. Applicant shall monitor and record, on a per shift basis, the following process parameter(s):
 - Scrubbing solution flow rate

All recorded information shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request.

OPERATING REQUIREMENTS AND/OR LIMITATIONS

- 22. Applicant shall not operate the RTV area unless at least one scrubber stage is installed and operating properly.
- 23. Applicant shall not operate mixer no. MX0208, MX0217, MX0228, MX0219, and MX0257 unless either scrubber SC0731 or SC073102 is installed and operating properly. The minimum flowrate of the scrubbing liquid shall be 20 gallons per minute.
- 24. Applicant shall equip and maintain the scrubber with a pH monitor and a liquid flowrate indicator.
- 25. The disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.

Wacker Silicones Corporation Permit No. 597-81B Page 5 April 15, 1998

STACK PARAMETERS

26. The exhaust gases from the processes and control shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 8 inches at an exit point not less than 27.5 feet above ground level.







JACKSON DISTRICT OFFICE STATE OFFICE BUILDING 301 E LOUIS GLICK HWY

JACKSON MI 49201-1556

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY "Better Service for a Better Environment"

"Better Service for a Better Environment"
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us RUSSELL J. HARDING, Director

April 2, 1998

Mr. Robert O. Sullivan Wacker Silicones 3301 Sutton Road Adrian, Michigan 49221-9397

Dear Mr. Sullivan:

SUBJECT: MID075400671

This correspondence is written to acknowledge receipt of your letter dated March 27, 1998, which itemizes actions taken by Wacker Silicones, 3301 Sutton Road, Adrian, Michigan, to correct violations of Part 111: Hazardous Waste Management of the Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.11101 et seq (Part 111), and Subtitle C of the Federal Resource Conservation and Recovery Act (RCRA), as amended. These violations were observed by staff of the Department of Environmental Quality (DEQ) during an inspection conducted on February 19, 1998 and you were notified of these violations in a letter dated February 27, 1998.

A follow-up inspection was conducted on April 1, 1998, to verify correction of said violations.

This is to notify you that, based on the information in your March 27, 1998 letter (and the DEQ's April 1, 1998 follow-up inspection), the DEQ has determined that you have corrected the violations identified in the compliance letter dated February 27, 1998, with regard to Part 111 and RCRA.

While Wacker is in compliance with RCRA and Part 111, some problems with container management still exist. More training or management follow-up is recommended.

If you have any questions, feel free to contact me.

Sincerely,

Martin L. Jacobson

Environmental Quality Analyst Waste Management Division

Jackson District Office

517-780-7842

mlj:red

Permit 434-81



March 6, 1998



Mr. Nicholas P. Zabrodsky
Senior Engineer
Permit Section
Department of Environmental Quality
Air Quality Division
Howlister Building
P. O. Box 30260
Lansing, Michigan 48909

Subject: Air Permits 158-97, 597-81B and Permit Deletions

Dear Mr. Zabrodsky:

In regards to your visit on January 9, 1998 which was most welcomed and appreciated by our staff I am replying to your concerns from the meeting and in addition to the faxes dated February 6, 1998, February 9, 1998 and February 26, 1998.

- 1. Fax dated February 6, 1998 is in reference to 597-81B. Special Condition #24 was on permit 597-81A of which we are asking for a deletion and is now on 597-81B. Our calculations on 597-81B are for eleven mixers based on 8760 hours of production. The 2400 batch limit for the eight mixers on 597-81A was based on 5256 hours of production therefore this should be deleted from the special conditions of 597-81A and then 597-81B would be acceptable.
- 2. The mixer numbers are correct on the fax dated February 26, 1998 for special condition No. 13 on permit 597-81B.
- 3. Application 158-97 is acceptable except for condition No. 22 on fax dated February 9, 1998. All of our reactors, RXO 901, 902, 903, 905 and 910 are discharged through the sidewall as indicated in the application under Table I. This should be changed to reflect this exception.
- 4. Permit deletions that should be addressed are as follows:
 - A. Under Application 158-97 the following process equipment and control equipment have been incorporated. Air Permits: 210-75-A-E, 378-88 and 957-79A-D. This is a total of 12 permits incorporated in 158-97. Please delete them.
 - B. Permit 265-73. Please delete, process does not exist.

Wacker Silicones Corp.
 3301 Sutton Road
 Adrian, MI 49221-9397
 (517) 264-8500
 Fax (517) 264-8246

- C. Please delete Permit 441-75 for the three boilers. They are exempt and the underground storage tanks used to store oil have been removed. (Proof provided to Mike Maillard of the Jackson District Office).
- D. Permit #121-76 Process not longer exist, please delete.
- E. Permit #375-76 and 375-76A are now a part of 565-96, please delete.
- F. Permit #37-81 please delete this is a part of permit #525-82B.
- G. Permit #494-81 process no longer exists. Please delete.
- H. Permit #597-81 and 597-81A are now a part of permit application 597-81B.
- J. Permit #383-82 Process not longer exists. Please delete.
- K. Permit #525-82 is now a part of 525-82B. Please delete.

The above deletions total 20 permits leaving Wacker Silicones the following permits which identify all of our processes and emissions on site at 3301 Sutton Road.

Permits are as follows:

- 1. *597-81B RTV Production
- 2. 525-82B Polymers Production
- 3. 61-96 CMP Production
- 4. 565-96 HCR Production
- 5. *158-97 Hibay Production

We hope this will solve the permit confusion for both the Lansing and Jackson District Offices.

If you have any questions please feel free to contact me at 517-264-8361.

Yours truly,

WACKER SILICONES CORPORATION

Robert O. Lullivan

Robert O. Sullivan, CHMM Manager, Regulatory Affairs and Product Safety

CC: J. Barancin

M. Maillard

R. Moskal

^{*}Block Flow Diagrams included.

STATE OF MICHIGAN

Juni Skull



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

AIR QUALITY DIVISION PO BOX 30260 LANSING MI 48909-7760

194-81 - 2 ken dum plating 6 m 565-96

REPLY TO:

INTERNET: http://www.deq.state.mi.us RUSSELL J. HARDING, Director

August 26, 1997

Mr. Robert Sullivan, Administrator Environmental Regulations Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221

Dear Mr. Sullivan:

This letter is in reference to your Permit to Install application for a silicone fluids, emulsions, sealants and rubbers production facility with fabric filter and scrubber control located at 3301 Sutton Road, Adrian, Michigan. This application, identified as No. 565-96, has been evaluated and approved by the Air Quality Division, pursuant to the delegation of authority from the Michigan Department of Environmental Quality.

This approval is based upon and subject to compliance with all administrative rules of the Department and conditions stipulated in the attached supplement. Please review these conditions thoroughly so that you may take the actions necessary to ensure compliance with all of these conditions.

You are advised that contaminants discharged to the surface waters and/or groundwaters; materials disposed of on land; hazardous waste storage, treatment, and disposal; and resource recovery facilities must be approved by other divisions of the Department of Environmental Quality. Additionally, your plant environment must be in compliance with all applicable requirements of the Departments of Public Health and Labor.

Also, Permit to Install Nos. 628-81, 84-81C, 84-81D, 84-81E, 777-81, 337-82, and 240-83 have been voided because the equipment is now covered by Permit to Install No. 565-96.

Please contact me if you have any questions regarding this permit.

Sincerely,

Nicholas P. Zabrodsky

Senior Engineer

Chemical Process Unit Permit Section

Air Quality Division

517-373-4921

NPZ:clk Attachments

cc: Jack Larsen, District Supervisor

EQP 0100e (Rev. 10/96)

SUPPLEMENT TO PERMIT NO. 565-96

Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221

August 26, 1997

GENERAL CONDITIONS

- 1. Rule 201(1) The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule.
- 2. Rule 201(4) If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the person to whom this permit was issued, or the designated authorized agent, shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install.
- 3. Rule 201(6)(a) If this Permit to Install is issued for a process or process equipment located at a stationary source which is subject to a Renewable Operating Permit pursuant to Rule 210, trial operation is allowed if the equipment performs in accordance with the terms and conditions of this Permit to Install and until the appropriate terms and conditions of this Permit to Install have been incorporated into the Renewable Operating Permit as a modification pursuant to Rule 216 or upon renewal pursuant to Rule 217. Upon incorporation of the appropriate terms and conditions into the Renewable Operating Permit, this Permit to Install shall become void.
- 4. Rules 201(6)(b)(i) or 216(1)(a)(v)(A) Except as provided in General Condition No. 3, operation of the process or process equipment is allowed if, not more than 30 days after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this Permit to Install was issued, or the authorized agent pursuant to Rule 204, notifies the District Supervisor, Air Quality Division, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, alteration, or modification is considered to occur not later than commencement of trial operation of the process or process equipment.
- 5. Rule 201(6)(b)(ii) Except as provided in General Condition No. 3, not more than 18 months after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this permit was issued, or the authorized agent pursuant to Rule 204, shall notify the District Supervisor, Air Quality Division, in writing, of the status of compliance of the process or process equipment with the terms and conditions of the Permit to Install. The notification shall include all of the following:
 - A. The results of all testing, monitoring, and recordkeeping performed to determine the actual emissions from the process or process equipment and to demonstrate compliance with the terms and conditions of the Permit to Install.
 - B. A schedule of compliance for the process or process equipment as described in Rule 119(a).

• Wacker Silicones Corporation Permit No. 565-96 Page 2 August 26, 1997

- C. A statement, signed by the person owning or operating the process or process equipment, that, based on information and belief formed after reasonable inquiry, the statements and information in the notification are true, accurate, and complete.
- 6. Rule 201(7) and Section 5510 of Act 451, P.A. 1994 The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Departments' rules or the Clean Air Act.
- 7. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required in Rule 219(1)(a), (b) and (c). The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality
- 8. Rule 901 Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
- 9. Rule 912 The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the District Supervisor within 10 days, with the information required in this rule.
- 10. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future regulations which may be promulgated under Part 55 of Act 451, P.A. 1994.
- 11. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
- 12. Operation of this equipment may be subject to other requirements of Part 55 of Act 451, P.A. 1994, and the rules promulgated thereunder.

• Wacker Silicones Corporation Permit No. 565-96 Page 3 August 26, 1997

SPECIAL CONDITIONS

- 13. The volatile organic compound (VOC) emission rate from the silicone fluids, emulsions, sealants, and rubbers manufacturing process, hereinafter "process", shall not exceed 0.16 pound per hour nor 0.7 ton per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 14. The siloxanes emission rate from the process shall not exceed 11.2 pounds per hour nor 49.2 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 15. The ammonia emission rate from the process shall not exceed 1.6 pounds per hour nor 7.1 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.
- 16. Rule 331 The particulate emission from the bag dump stations (powder charging stations), base mixers, and gum reactors shall not exceed 0.02 pound per 1,000 pounds of exhaust gases nor 0.9 pound per hour.
- 17. Rules 1001, 1003 and 1004 Verification of volatile organic compound (VOC), ammonia, and/or siloxane emission rates from the process and bag dumping stations with dust collectors by testing, at owner's expense, in accordance with Department requirements, may be required. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.
- 18. Applicant shall monitor and record the production information as necessary to demonstrate compliance with conditions 13, 14, and 15, in a format approved by the District Supervisor. This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.
- 19. Applicant shall not operate the bag dump stations (powder charging stations) unless the bag filters are installed and operating properly.
- 20. Applicant shall not operate mixer Nos. MXO710, MXO711, MXO712, and MXO719, while emitting ammonia, unless the scrubbers (in series) are installed and operating properly.
- 21. Applicant shall not operate any mixers, except for MXO704, MXO706, and MXO708, unless the filter-condensers are installed and operating properly.

• Wacker Silicones Corporation Permit No. 565-96 Page 4 August 26, 1997

- 22. Applicant shall equip and maintain the scrubber systems (FS-701 and FS-702) with a feedback mechanical shutdown or flow alarm system to alert the company of scrubber failure.
- 23. As part of a preventive maintenance program, maintenance records for the various control devices (bag filters, scrubbers, and filter-condensers) shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.
- 24. The exhaust gases from the process shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 8 inches at an exit point not less than 27.5 feet above ground level.
- 25. The exhaust gases from mixer numbers MXO702, MXO703, MXO704, MXO706, MXO707, MXO708, MXO709, MXO713, MXO730, and MXO740 shall be discharged unobstructed vertically upwards to the ambient air from stack having a maximum diameter of 4 inches and at an exit point not less than 21.5 feet above ground level.
- 26. The exhaust gases from mixer numbers MXO710, MXO711, MXO712, and MXO719 (when used for rubber base production) shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 4 inches at an exit point not less than 15 feet above ground level.



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

RUSSELL J. HARDING, Director October 10, 1996

Mr. Robert Sullivan, Administrator **Environmental Regulations** Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

REPLY TO:

AIR QUALITY DIVISION PO BOX 30260 LANSING MI 48909-7760

Ed HiAH

Please review of item #18

#18

under Special Conditions

Dear Mr. Sullivan:

This letter is in reference to your Permit to Install application for a silicone polymers production process area with vacuum system and scrubber TKQ550, including an additional reactor (Buss reactor RX0810), located at 3301 Sutton Road, Adrian, Michigan. This application, identified as No. 525-82B, has been evaluated and approved by the Air Quality Division, pursuant to the delegation of authority from the Michigan Department of Environmental Quality.

This approval is based upon and subject to compliance with all administrative rules of the Department and conditions stipulated in the attached supplement. Please review these conditions thoroughly so that you may take the actions necessary to ensure compliance with all of these conditions.

You are advised that contaminants discharged to the surface waters and/or groundwaters; materials disposed of on land; hazardous waste storage, treatment, and disposal; and resource recovery facilities must be approved by other divisions of the Department of Environmental Quality. Additionally, your plant environment must be in compliance with all applicable requirements of the Departments of Public Health and Labor.

Also, Permit to Install No. 525-82A has been voided because the equipment is now covered by Permit to Install No. 525-82B.

Please contact me if you have any questions regarding this permit.

Licholas F. Cabrid sky Sincerely,

Nicholas P. Zabrodsky

Senior Engineer

Chemical Process Unit

Permit Section

Air Quality Division

517-373-4921

NPZ:bkg

Enclosure

cc: Jack Larsen, District Supervisor

SUPPLEMENT TO PERMIT NO. 525-82B

Wacker Silicones Corp. Adrian, Michigan

October 10, 1996

GENERAL CONDITIONS

- 1. Rule 201(1) The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule.
- 2. Rule 201(4) If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the person to whom this permit was issued, or the designated authorized agent, shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install.
- 3. Rule 201(6)(a) If this Permit to Install is issued for a process or process equipment located at a stationary source which is subject to a Renewable Operating Permit pursuant to Rule 210, trial operation is allowed if the equipment performs in accordance with the terms and conditions of this Permit to Install and until the appropriate terms and conditions of this Permit to Install have been incorporated into the Renewable Operating Permit as a modification pursuant to Rule 216 or upon renewal pursuant to Rule 217. Upon incorporation of the appropriate terms and conditions into the Renewable Operating Permit, this Permit to Install shall become void.
- 4. Rules 201(6)(b)(i) or 216(1)(a)(v)(A) Except as provided in General Condition No. 3, operation of the process or process equipment is allowed if, not more than 30 days after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this Permit to Install was issued, or the authorized agent pursuant to Rule 204, notifies the District Supervisor, Air Quality Division, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, alteration, or modification is considered to occur not later than commencement of trial operation of the process or process equipment.
- 5. Rule 201(6)(b)(ii) Except as provided in General Condition No. 3, not more than 18 months after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this permit was issued, or the authorized agent pursuant to Rule 204, shall notify the District Supervisor, Air Quality Division, in writing, of the status of compliance of the process or process equipment with the terms and conditions of the Permit to Install. The notification shall include all of the following:
 - A. The results of all testing, monitoring, and recordkeeping performed to determine the actual emissions from the process or process equipment and to demonstrate compliance with the terms and conditions of the Permit to Install.

Wacker Silicones Corp. Permit No. 525-82B Page 2 October 10, 1996

- B. A schedule of compliance for the process or process equipment as described in Rule 119(a).
- C. A statement, signed by the person owning or operating the process or process equipment, that, based on information and belief formed after reasonable inquiry, the statements and information in the notification are true, accurate, and complete.
- 6. Rule 201(7) and Section 5510 of Act 451, P.A. 1994 The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Departments' rules or the Clean Air Act.
- 7. Rule 219 A new owner or operator of the process or process equipment covered by this Permit to Install shall immediately make a written request to the Department for a change of ownership or operational control. The request shall include all of the information required in Rule 219(1)(a), (b) and (c). If the request for a change in ownership or operational control is approved, the terms and conditions of this Permit to Install shall apply to the person or legal entity which hereafter owns or operates the process or process equipment for which this Permit to Install is issued. The written request shall be sent to the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909.
- 8. Rule 901 Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
- Rule 912 The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the District Supervisor within 10 days, with the information required in this rule.
- 10. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future regulations which may be promulgated under Part 55 of Act 451, P.A. 1994.
- 11. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
- 12. Operation of this equipment may be subject to other requirements of Part 55 of Act 451, P.A. 1994, and the rules promulgated thereunder.

Wacker Silicones Corp. Permit No. 525-82B Page 3 October 10, 1996

SPECIAL CONDITIONS

- 13. The hydrogen chloride emission from the chemical processes shall not exceed 11,000 milligrams per cubic meter, corrected to 70°F and 29.92 inches Hg, nor 0.1 pound per hour.
- 14. The formaldehyde emission from the chemical processes shall not exceed 9,000 milligrams per cubic meter, corrected to 70°F and 29.92 inches Hg, nor 0.1 pound per hour.
- 15. The volatile organic compound (VOC) emission rate from the chemical processes shall not exceed 2.4 pounds per hour nor 10.5 tons per year.
- 16. Visible emissions from the chemical processes shall not exceed 20% opacity, as according to Rule 301(1)(a).
- 17. The exhaust gases from the chemical processes shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 12 inches at an exit point not less than 28 feet above ground level.
- Applicant shall not operate the chemical processes unless the ejector/venturi gas scrubber jet and the sodium hypochlorite scrubber tank are installed and operating properly.
 - 19. Rules 1001, 1003 and 1004 Verification of VOC emission rates from the chemical processes by testing, at owner's expense, in accordance with Department requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.

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DNR

Michigan Department of Natural Resources, Air Quality Division

AIR USE PERMIT APPLICATION

APPLICATION NUMBER

CPUZ

FOR AUTHORITY TO INSTALL, CONSTRUCT, RECONSTRUCT, RELOCATE OR ALTER AND OPERATE PROCESS, FUEL-BURNING OR REPUSE-BURNING EQUIPMENT AND/OR CONTROL EQUIPMENT (PERMITS TO INSTALL AND OPERATE ARE REQUIRED BY ADMINISTRATIVE RULES PURSUANT TO ACT 348, P.A. 1965, AS AMENDED).

Please type or print clearly. For further instructions, see the reverse side of this form, or contact the Air Quality Division at: 517/373-7023.

PPLICANT NAME: (Business License Name of Corporation, Partnership, Individual Owner, Go	F	AIR QUALITY DIVISION
WACKER SILICONES CORPORATION	Vernment Agency	DFC 2 1 1995
2. APPLICANT ADDRESS: (Number and Street) 3301 SUTTON ROAD		
CITY: (City-or Village) ADRIAN		STATE: PERMITOSECTION MI 49221-9397
3. EQUIPMENT OR PROCESS LOCATION: (Number and Street) 3301 SUTTON ROAD		COUNTY LENAWEE
CITY (City or Village) ADRIAN		ZIRIGODE****3********************************
 GENERAL NATURE OF BUSINESS: Manufacture of silicone fluids, emulsions, sealants, 	rubber	organ Wilmos Liminstenot II
 EQUIPMENT OR PROCESS DESCRIPTION: (Attach additional sheets, if necessary Include Sour To modify existing air permit 525-82A 	ce Classification	Codes (SCCI):
1. Add a new continuous reactor (Buss-LR250) rated a RX0810. Unit is similar to RX0607 on permit 84-8	t 4400 lb/	9、 6: [19] [4] (4] (4] (4] (4] [4] [4] (4] (4] (4] (4] (4] (4] (4] (4] (4] (
2. Add one Young Bag station (powder charging) to RX	40811 for	tons 11:44 bett in seesing is a second
3. Add one 800,000 BTU/hr therminol furnace used for CL0806 natural gas unit. RX-0811 replaced R804.	design Asing	The contract and work of
CONTINUED (SEC ATTACHMENT 1)	and the second s	建设定 强调的 "大马看说,我就说,""是是在这些情况,就是这一样的,我没有这些一个人,我们就是这个人的,我们就是一个人,不是一个人的。"
6. FACILITY CODES: Standard Industrial Classification (SIC) Code: 1	· · · · · · · · · · · · · · · · · · ·	ESTIMATED COMPLETION DATE
		th Name to Carles Trollers
Relocation:	. Walional Sa	ones of special party
.Ghange of Ownership		
8. NAME OF PRIOR OWNER IF ANY.	AND THE PART	andret des addision r ougen
9. OWNER/AUTHORIZED FIRM MEMBER CERTIFICATION TITLE: Administrator.	ortençãos sia	VIII (A. DOLLAS P. DAGROCAF. PHONE'NI MRER. (Dollate Ares Code)
Robert 0. Sullivan Environmenta Regu	llations	517-264-8361 2M-8242
Robert O. Kullivan		DATE / 8/97
10. CONTACT PERSON NAME: (If different than name in item 9)	espagnas design	PHONE NUMBER: (Include Area Code)
FOR DNR USE ONLY - DO NOT WRITE B	ELOW.	ing Care North Court of the Arthrophy Court
Date of receipt of all information required by Rule 203:	act asimotic production	Agricultura (Santagrafia agricultura)
Date permit to install approved:	Signature:	Sam A Churchenter
Date permit to operate approved: *	Signature:	
ate application/permit voided:	Signature:	
Date application/permit denied:	Signature:	
*Subject to compliance with all Commission Rules and Conditions stipulated in the attached sup	plement.	

AIR POLLUTION CONTROL COMMISSION

AIR QUALITY DIVISION MICHIGAN DEPARTMENT OF NATURAL RESOURCES

APPLICATION INSTRUCTIONS

Submit this form in triplicate, complete application requires **specifications and drawings in duplicate**. An application is required for basic processing equipment as well as air pollution control equipment. Basic equipment includes any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants. Air pollution control equipment includes any article, machine, equipment or other contrivance, the use of which may eliminate or reduce or control the issuance of air contaminants. One application will suffice for an interrelated process. This application must be signed by the owner or authorized member of firm. Please attach the following:

- 1. Equipment Location Drawings Submit drawings showing:
 - a. Plan view of owner's property to boundary lines, include outline and height of all structures.
 - b. Locate and identify proposed equipment on property line.
 - c. Locate and identify all adjacent properties and all structures within 150 feet of proposed equipment showing outlines and heights.
 - d. Indicate north direction on drawing.
- 2. Equipment Specification State make, model, size and type, etc. of proposed equipment and all major accessory equipment.
- 3. Process or Use Specification Attach a complete written description of each process covered by this permit application. Explain clearly and in detail each process stage by including the nature, quantity, concentration, particle size, pressure, temperature, etc. of materials which may be discharged to the atmosphere. Prove sufficient control method detail to show the extent and efficiency of air pollution control devices.
- 4. Operating Schedule Specify proposed equipment operating time in hours per day and days per week
- 5. Process Weight Detail type and feed rate in pounds per hour or similar measure for each process material charged.
- 6. Fuels and Firing Devices Indicate for gaseous fuels: type and cubic feet per hour, for fuel oil grade and gallons hour, sulfur content, and specify temperature to which oil is preheated, for solid fuels: type, ultimate analysis and pour per hour, indicate for firing device make, model, size, type, number of devices and capacity range of each device (from minimum to maximum).
- 7. Flow Diagram For continuous processes, show the flow materials either on a separate flow diagram or on the drawings accompanying-the application.
- 8. Drawings or Equipment Supply an assembly drawing, dimensioned to scale, in plan, elevation and as many sections as are needed to show, clearly; equipment design and operation and the means for controlling air contaminants. Structural design calculations and details are not required. When installing standard commercial equipment, the manufacturer's scale describing the equipment may be submitted in lieu of the parts of Item 8 that it covers. The following must be shown:
 - a. Size and shape of equipment, exterior and interior dimensions and features and materials of construction.
 - b. Locations, sizes and shape details of materials handling equipment and all features which may affect the production, collection, conveying or control of air contaminants.
 - c. Horsepower rating of driving motors.
 - d. Additional information may be required.
 - e. Indicate where in the system provision is made for source testing.
- 9. A permit application should pertain to an individual unit of equipment or to an operation or to a series of related operations within a process which are scheduled for simultaneous installation or alteration.

After authority to construct, install or alter is granted for any equipment, deviations from the approved plans and application information required are not permissible without first securing written approval.

Further information or clarification concerning permits can be obtained from the Air Quality Division. Phone: (517) 373-7023, (Lansing) Michigan Department of Natural Resources, P.O. Box 30028, Lansing, Michigan 48909.



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

RUSSELL J. HARDING, Director

April 25, 1996

Mr. Robert O. Sullivan Administrator, Environmental Regulations Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397

Dear Mr. Sullivan:

This letter is in reference to your Permit to Install application for the CMP manufacturing process located at 3301 Sutton Road, Adrian, Michigan. This application, identified as No. 61-96, has been evaluated and approved by the Air Quality Division, pursuant to the delegation of authority from the Michigan Department of Environmental Quality.

This approval is based upon and subject to compliance with all administrative rules of the Department and conditions stipulated in the attached supplement. Please review these conditions thoroughly so that you may take the actions necessary to ensure compliance with all of these conditions.

You are advised that contaminants discharged to the surface waters and/or groundwaters; materials disposed of on land; hazardous waste storage, treatment, and disposal; and resource recovery facilities must be approved by other divisions of the Department of Environmental Quality. Additionally, your plant environment must be in compliance with all applicable requirements of the Departments of Public Health and Labor.

Please contact me if you have any questions regarding this permit.

Sincerely,

Gregory M. Edwards Supervisor

Chemical Process Unit

Permit Section
Air Quality Division

517-335-3693

GEM:baw: Enclosure

cc: Jack Larsen, District Supervisor

REPLY TO:

AIR QUALITY DIVISION PO BOX 30260 LANSING MI 48909-7760

> f Y I J. Barancin J. Shull M. Wolfgruber L. French

SUPPLEMENT TO PERMIT NO. 61-96

Wacker Silicones Corporation Adrian, Michigan

April 17, 1996

GENERAL CONDITIONS

- 1. Rule 201(1) The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule.
- 2. Rule 201(4) If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the person to whom this permit was issued, or the designated authorized agent, shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install.
- 3. Rule 201(6)(a) If this Permit to Install is issued for a process or process equipment located at a stationary source which is subject to a Renewable Operating Permit pursuant to Rule 210, trial operation is allowed if the equipment performs in accordance with the terms and conditions of this Permit to Install and until the appropriate terms and conditions of this Permit to Install have been incorporated into the Renewable Operating Permit as a modification pursuant to Rule 216 or upon renewal pursuant to Rule 217. Upon incorporation of the appropriate terms and conditions into the Renewable Operating Permit, this Permit to Install shall become void.
- 4. Rules 201(6)(b)(i) or 216(1)(a)(v)(A) Except as provided in General Condition No. 3, operation of the process or process equipment is allowed if, not more than 30 days after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this Permit to Install was issued, or the authorized agent pursuant to Rule 204, notifies the District Supervisor, Air Quality Division, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, alteration, or modification is considered to occur not later than commencement of trial operation of the process or process equipment.
- 5. Rule 201(6)(b)(ii) Except as provided in General Condition No. 3, not more than 18 months after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by this Permit to Install, the person to whom this permit was issued, or the authorized agent pursuant to Rule 204, shall notify the District Supervisor, Air Quality Division, in writing, of the status of compliance of the process or process equipment with the terms and conditions of the Permit to Install. The notification shall include all of the following:
 - A. The results of all testing, monitoring, and recordkeeping performed to determine the actual emissions from the process or process equipment and to demonstrate compliance with the terms and conditions of the Permit to Install.

Wacker Silicones Corporation Permit No. 61-96 Page 2 Aril 17, 1996

- B. A schedule of compliance for the process or process equipment as described in Rule 119(a).
- C. A statement, signed by the person owning or operating the process or process equipment, that, based on information and belief formed after reasonable inquiry, the statements and information in the notification are true, accurate, and complete.
- 6. Rule 201(7) and Section 5510 of Act 451, P.A. 1994 The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Departments' rules or the Clean Air Act.
- 7. Rule 219 A new owner or operator of the process or process equipment covered by this Permit to Install shall immediately make a written request to the Department for a change of ownership or operational control. The request shall include all of the information required in Rule 219(1)(a), (b) and (c). If the request for a change in ownership or operational control is approved, the terms and conditions of this Permit to Install shall apply to the person or legal entity which hereafter owns or operates the process or process equipment for which this Permit to Install is issued. The written request shall be sent to the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909.
- 8. Rule 901 Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
- 9. Rule 912 The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the District Supervisor within 10 days, with the information required in this rule.
- 10. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future regulations which may be promulgated under Part 55 of Act 451, P.A. 1994.
- 11. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
- 12. Operation of this equipment may be subject to other requirements of Part 55 of Act 451, P.A. 1994, and the rules promulgated thereunder.

Wacker Silicones Corporation Permit No. 61-96 Page 3 Aril 17, 1996

SPECIAL CONDITIONS

13. Visible emissions from the CMP manufacturing process shall not exceed 0% opacity

GME:baw



Michigan Department of Natural Resources, Air Quality Division

AIR USE PERMIT APPLICATION

FOR DNR USE ONLY
APPLICATION NUMBER

FOR AUTHORITY TO INSTALL, CONSTRUCT, RECONSTRUCT, RELOCATE OR ALTER AND OPERATE PROCESS, FUEL-BURNING OR REFUSE-BURNING EQUIPMENT AND/OR CONTROL EQUIPMENT (PERMITS TO INSTALL AND OPERATE ARE REQUIRED BY ADMINISTRATIVE RULES PURSUANT TO ACT 348, P.A. 1965, AS AMENDED).

T. APPLICANT NAME: (Business License Name of Corporation, Wacker Silicones Corporation	Partnership, Individual Owner,	Government Agency)	FEB - 1 1996
APPLICANT ADDRESS: (Number and Street) 3301 Sutton Road		P	EBMIT SECTION
CITY: (City or Village) Adrian		STATE:	zip code: 49221-9397
 EQUIPMENT OR PROCESS LOCATION: (Number and Street) 3301 Sutton Road 		COUNTY: Lenav	
CITY: (City or Village) Adrian			ZIP CODE:: 49221-9397
 GENERAL NATURE OF BUSINESS: Manufacture of silicone fluids, 			
5. EQUIPMENT OR PROCESS DESCRIPTION: (Attach additional			C)).
1. Install a Chemical Mechanica	1 Polishing Proces	SS	10 1 10 10 10 10 10 10 10 10 10 10 10 10
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6 FACILITY CODES:			<u></u>
Standard Industrial Classification (SIC) Code:		nventory) No.: A284	TIMATED COMPLETION DATE
7. ACTION AND TIMING: (Enter dates for those which apply)	ESTIMATED STAR	ING DATE	STIMATED COMPLETION DATE
Installation, construction, reconstruction or alteration:	3/1/96		4/1/96
Relocation:			er en en en en en en en en en en en en en
Change of Ownership:		e in the state of	and the second second
8. NAME OF PRIOR OWNER, IF ANY:		PRIOR AIR	R USE PERMIT NUMBER, IF ANY
9. OWNER/AUTHORIZED FIRM MEMBER CERTIFICATION:			
PRINTED OR TYPED NAME:	TITLE:		UMBER: (Include Area Code)
Robert O. Sullivan -	Administrator E		17-264-8361
SIGNATURE: Palvet O. Sul	llivan	DATE:	/31/96
10. CONTACT PERSON NAME: (If different than name in item 9)		PHONE N	UMBER: (Include Area Code)
	DNR USE ONLY. DO NOT WRI	FE BELOW.	
11. DISPOSITION OF APPLICATION:			
Date of receipt of all information required by Rule 203:	6 96		
Date permit to install approved:*	4-17-96	Signature: Allamin	a. Comprister
Date permit to operate approved:*		Signature:	
Date application/permit voided:		Signature:	
		Signatura	
Date application/permit denied:		Signature:	

AIR POLLUTION CONTROL COMMISSION

AIR QUALITY DIVISION MICHIGAN DEPARTMENT OF NATURAL RESOURCES

APPLICATION INSTRUCTIONS

Submit this form in triplicate, complete application requires **specifications and drawings in duplicate**. An application is required for basic processing equipment as well as air pollution control equipment. Basic equipment includes any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants. Air pollution control equipment includes any article, machine, equipment or other contrivance, the use of which may eliminate or reduce or control the issuance of air contaminants. One application will suffice for an interrelated process. This application must be signed by the owner or authorized member of firm. Please attach the following:

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 - b. Locate and identify proposed equipment on property line.
 - c. Locate and identify all adjacent properties and all structures within 150 feet of proposed equipment showing outlines and heights.

Dillimit.

S. S. Frederick

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- d. Indicate north direction on drawing.
- 2. **Equipment Specification** State make, model, size and type, etc. of proposed equipment and all major accessory equipment.
- 3. Process or Use Specification Attach a complete written description of each process covered by this permit application. Explain clearly and in detail each process stage by including the nature, quantity, concentration, particle size, pressure, temperature, etc. of materials which may be discharged to the atmosphere. Prove sufficient control method detail to show the extent and efficiency of air pollution control devices.
- 4. Operating Schedule Specify proposed equipment operating time in hours per day and days per week.
- 5. Process Weight Detail type and feed rate in pounds per hour or similar measure for each process material charged.
- 6. Fuels and Firing Devices indicate for gaseous fuels: type and cubic feet per hour, for fuel oil: grade and gallons per hour, sulfur content and specify temperature to which oil is preheated, for solid fuels: type, ultimate analysis and pounds per hour, indicate for firing device make, model, size, type, number of devices and capacity range of each device (from minimum to maximum).
- 7. Flow Diagram For continuous processes, show the flow materials either on a separate flow diagram or on the drawings accompanying the application.
- 8. Drawings or Equipment Supply an assembly drawing, dimensioned to scale, in plan, elevation and as many sections as are needed to show, clearly equipment design and operation and the means for controlling air contaminants. Structural design calculations and details are not required. When installing standard commercial equipment, the manufacturer's scale describing the equipment may be submitted in lieu of the parts of item 8 that it covers. The following must be shown:
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 - c. Horsepower rating of driving motors.
 - d. Additional information may be required.
 - e. Indicate where in the system provision is made for source testing.
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After authority to construct, install or alter is granted for any equipment, deviations from the approved plans and application information required are not permissible without first securing written approval.

Further information or clarification concerning permits can be obtained from the Air Quality Division. Phone: (517) 373-7023, (Lansing) Michigan Department of Natural Resources, P.O. Box 30028, Lansing, Michigan 48909.

NATURAL RESOURCES COMMISSION

JERRY C. BARTNIK J. CHARTERS DEVUYST PAUL EISELE JAMES P. HILL DAVID HOLLI JOEY M. SPANO



JOHN ENGLER, Governor DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING, PO BOX 30028, LANSING MI 48909-7528

ROLAND HARMES, Director

REPLY TO: WASTE MANAGEMENT DIVISION PO BOX 30241 LANSING MI 48909-7741

June 16, 1995

CERTIFIED MAIL

Mr. Robert Sullivan Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

Dear Mr. Sullivan:

Certification of Closure SUBJECT:

Wacker Silicones Corporation (Wacker)

Adrian, Michigan MID 075 400 671

The Michigan Department of Natural Resources (MDNR) has completed review of the certification of closure for the subject facility. The certification consists of the Closure Report for Wacker Silicones Corporation hazardous Waste Drum Storage Pad, received June 15, 1995; Based on this review, Wacker is hereby released from its closure responsibilities under Part 111 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451 (Act 451). Wacker is therefore no longer required to demonstrate financial capability for closure and liability coverage.

Facility Status

With this acceptance of the certification of closure, the Wacker facility can no longer be operated as a hazardous waste treatment, storage, or disposal facility. If hazardous waste is generated at the facility, it must be managed in accordance with all applicable generator requirements in Part 3 of the Hazardous Waste Management Rules (Rules) promulgated pursuant to Part 111 of Act 451.

Financial Capability

Wacker demonstrates financial assurance for closure by use of a time deposit account which expires June 16, 1995. In accordance with R 299.9703(5) of the Rules, this acceptance of the certification of closure constitutes a release from the requirement to maintain such financial assurance. The financial institution will be instructed to release the funds held in the time deposit account to Wacker.

Wacker demonstrates financial responsibility for pollution liability coverage by use of a financial test. In accordance with R 299.9710(16) of the Rules, this acceptance of the certification of closure constitutes a release from the requirement to maintain such financial responsibility. Wacker is no longer required to demonstrate the required coverage with updated financial test information.

Corrective Action Responsibilities

This acceptance of the certification of closure does not constitute a release from any corrective action responsibilities Wacker may have under Part 111 of Act 451 or the federal Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984. In addition to the responsibility to close regulated hazardous waste management units, owners and operators are responsible to conduct corrective actions for releases of hazardous wastes and hazardous constituents at solid waste management units.

If you have questions regarding this letter, please contact Ms. Angela Hahn at Waste Management Division, Michigan Department of Natural Resources, P.O. Box 30241, Lansing, Michigan 48909, or at telephone number 517-373-7738.

Sincere/1

Jim Sygo, Chief

Waste Management Division

-517-373-9523

cc: Mr. Ross DelRosario, U.S. EPA

Ms. Deb Hennessy, MJC

Mr. Phil Schrantz/Mr. Martin Jacobson, MDNR-Jackson

Mr. Steve Buda, MDNR Mr. Steve Sliver, MDNR

Ms. Angela Hahn, MDNR

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to receive the se (for an extra see's Address URN RECEIPT ured No Insurance Coverage Provided Do not use for International Mail 49214397 Sent to Br. Successor Receipt for Certified Mail 8 5 8 ↭ 796 950 Return Receipt Showing to Whom, Date, and Addressee's Address (See Reverse) Return Receipt Showing to Whom & Date Delivered Restricted Delivery Fee Special Delivery Fee Postmark or Date TOTAL Postage & Fees UNITED STATES POSTAL SERVICE Certified Fee PS Form **3800,** March 1993 SENDER:

• Complete items 1 and/or 2
• Complete items 3, and 4a 4
• Complete items 3, and 4a 4
• Print your name and address return this card to you.

• Write 'Return Receipt Reque on the Front of the Front Receipt Manual Show delivered.

3. Article Addressed to Addressed to ADRIAN MI

S. Signature (Addressee 5. Signature (Addressee 5. Signature (Addressee 6. Sign

INTEROFFICE COMMUNICATION

February 13, 1995

TO:

Wacker Silicones Corp NPDES Permit File

FROM:

Jude Woodcock, Permits Section, Surface Water Quality Division

SUBJECT:

Treatment Technology Based Effluent Limitations

NPDES Permit No. MI0026034

I. Summary

Wacker Silicones Company, Adrian Plant, located at 3301 Sutton Road, Adrian, Michigan 49221, is engaged in the manufacture of a variety of silicone products including fluids, emulsions, sealants, antifoams and rubbers. The company submitted an application on March 30, 1994, which was completed on May 6, 1994, and amended through February 9, 1995. The application requested the discharge of 95,300 gallons per day (GPD) of treated process wastewater, 29,700 GPD of noncontact cooling water, and 15,000 GPD of sanitary wastewaters (a total of 140,000 GPD) to the River Raisin. The current permit expired October 1, 1994.

II. EPA Regulations

The standard industrial classification codes for this facility are 2821, Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers; 2822 Synthetic Rubber (Vulcanizable Elastomers) and 2869, Industrial Organic Chemicals, Not Elsewhere Classified. As per a February 10, 1995 telephone conversation with Mr. Robert Sullivan of Wacker Silicones Corporation, more than 90% of the process wastewaters generated by this facility are from production classified under 2821. These wastewaters are regulated by 40 CFR Part 414, Organic Chemicals, Plastics, and Synthetic Fibers, Subpart D - Thermoplastic Resins that contains more restrictive limitations for BPT effluent limitations than the regulations for the remaining process wastewaters. 100% of the process wastewater is regulated by Subpart I - Direct Discharge Point Sources that use End-of-Pipe Biological Treatment. The regulations provide flow based effluent limitations.

40 CFR 414.41 contains BPT effluent limitations (BCT is reserved). The concentration values for the conventional pollutants are listed below, are in mg/l, and are to be multiplied by the process wastewater flow of 0.0953 million gallons per day (MGD) and a conversion factor to establish mass limitations. pH shall be within the range of 6.0 to 9.0 standard units.

Table 1

Parameter	Daily Maximum	Monthly Average
BOD ₅	64	24
TSS	130	40

40 CFR 414.91 contains BAT effluent limitations for Point Sources that use End-of-Pipe Biological Treatment. These limitations apply to facilities in the Subcategory whose annual production exceeds five million pounds. These concentration values are listed in Table 2, are in ug/l and shall be multiplied by the process wastewater flow of 0.0953 MGD and a conversion factor to establish mass limitations.



Corporate Office:

4763 S. Old US 23, Suite A Brighton, Michigan 48116-8685 (810) 220-3097 • Fax (810) 220-2772

Branch Office:

5455 W. 86th St., Suite 100 Indianapolis, Indiana 46268 (317) 876-1175 • Fax (317) 876-1885

RECEIVED

FEB 1 3 1995

Waste Management Division

FEB 1995

CLOSURE REPORT
FOR
WACKER SILICONES CORPORATION
HAZARDOUS WASTE DRUM
STORAGE PAD
ADRIAN, MICHIGAN

Prepared For:
Mike Regan
Inland Waters Pollution
2021 S. Schaefer Hwy.
Detroit, Michigan 48217

Prepared By: CEI Environmental Project: #SC-28 Property Owner: Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

January 13, 1995

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2.0 SITE CLOSURE ACTIVITIES	2
3.0 DISCUSSION	2
4.0 CONCLUSIONS AND CLOSURE RECOMMENDATIONS	3
5.0 STATEMENT OF LIMITATIONS	3
APPENDICES	
Appendix A Site Location	n Plan
Appendix B Site	e Plan
Appendix C Soil Boring	j Logs
Appendix D Analytical R	≀esults

1.0 INTRODUCTION

CEI Environmental (CEI) was retained by Mr. Mike Regan of Inland Waters, to perform the supervision, sampling and report preparation activities associated with the RCRA closure of a hazardous waste drum pad located at 3301 Sutton Road in Adrian, Michigan (See Appendix A). The mechanical cleaning of the storage pad was performed by personnel from Inland Waters Pollution Control, Inc. (IWPC) of Detroit, Michigan, utilizing a water jet.

This report summarizes the activities completed towards closure as outlined in the RCRA Closure Plan submitted to the Michigan Department of Natural Resources (MDNR) by the Wacker Silicones Corporation.

1.1 Site Description

The Wacker Silicones Corporation is located on the south side of Sutton Road in Adrian, Michigan. The site facility operations include the manufacturing of sealants used for both commercial and industrial purposes. The hazardous waste drum storage pad is located on the east side of the facility. The maximum storage capacity for the pad is four hundred (400) 55-gallon drums. The floor of the pad consists of eight inches thick concrete. Three foot high concrete walls provide containment for the pad. The entire pad is covered by a roof. A sump is located on the floor in the northwest corner of the pad. An underground pipe leads from the sump to a treatment pond also located on the subject property. A shut off valve is located along the underground pipe approximately five feet west of the storage pad (See Appendix B). No drums were present on the pad or immediate area during the on-site activities. A few small surface cracks were present on the concrete floor but did not appear to extend very deep.

1.2 Background

The storage pad has been used to store hazardous drummed materials. No major spills or leaks have occurred on the pad or immediate area, according to Mr. Gordon Philbrook, the Environmental Regulations Administrator at the facility. No major stains were observed on the storage pad or ramp floors.

2.0 SITE CLOSURE ACTIVITIES

The storage pad including the pad walls were cleaned by IWPC using a water jet. The process involved three rinsate cycles over the entire pad and pad walls. The first rinsate cycle was completed using a cleansing solution to dissolve oil-based compounds. The second and third cycle were completed using tap water.

During the cleaning process the valve on the line running from the sump to the treatment pond was closed to collect the rinsate in the sump area. After each cycle, the rinsate in the sump was pumped into an on-site storage tote, pending analytical results. A total of approximately 150 gallons of liquid was collected during the closure activities. A sample of the first and third rinsate solution was taken by CEI personnel as the liquid entered the sump.

After the storage pad floor and walls were dry, Wacker Silicones personnel sealed the larger cracked areas with weather proof sealant.

The soil near the shut-off valve on the underground pipe connecting the storage pad sump with the treatment pond was also sampled. The valve is located approximately five feet west of the storage pad.

Using a 3" diameter hand bucket auger, a boring was completed to five feet below the ground surface 6" east of the valve. Soil samples were collected at two and five feet below the ground surface. The soil cuttings were used to fill the borehole upon completion. The soil boring log can be found in Appendix C.

2.1 Investigative Sampling

The soil and liquid samples obtained were delivered in an iced cooler to Eagle Laboratories in Wixom, Michigan. The samples were analyzed for Polynuclear Aromatic Hydrocarbons (PNAs) using EPA Method 8270 and Volatile Organic Compounds (VOCs) using EPA Methods 8240 and 8015. Sample results can be found in Appendix D.

2.1.1 Soil Sample Results

The soil sample results from the soil boring (SB-1) show all tested parameters at levels below the method detection limits.

2.1.2 Rinsate Sample Results

The liquid samples taken from the first (Wash-1) and third (Rinse-2) rinsate cycles show all test parameters at levels below the method detection limits.

3.0 DISCUSSION

Closure activities were conducted for Wacker Silicones Corporation on a hazardous waste storage pad located at 3301 Sutton Road in Adrian, Michigan. The closure activities were performed following the approved RCRA Closure Plan previously submitted by Wacker Silicones.

As discussed in section 2.0, the storage pad, walls and ramp were cleaned using a water jet. Water samples were taken from the first and third rinsate cycle and submitted to the laboratory for analytical testing. The liquid generated during the cleaning process, approximately 150 gallons, was stored on site pending analytical results. Since the sample results were below the recommended method detection limits, the liquid was released into the treatment pond located on the subject property. The main cracks located on the floor of the storage pad were sealed with weatherproof sealant after the surface was dry.

The soil was sampled near the shut-off valve associated with an underground pipe running from a sump, located on the northwest corner of the storage pad, to the facilities treatment pond. The soil samples were taken at depths of two (2) and five (5) feet below the surface and submitted for analytical testing. The sample results were below the analytical method detection limits.

4.0 CONCLUSIONS AND CLOSURE RECOMMENDATIONS

It is CEI's opinion all requirements associated with the RCRA Closure of the hazardous waste drum storage pad have been met in accordance with the approved RCRA Closure Plan and, therefore, recommends closure be considered for the pad.

5.0 STATEMENT OF LIMITATIONS

The data presented and the opinions expressed in this report are qualified as follows:

- 5.1 The sole purpose of the investigation and this report is to assess physical characteristics of the site with respect to the presence in the environment of contaminants associated with a hazardous waste storage pad.
- 5.2 In preparing this report, CEI has relied upon and presumed accurate certain information (or the absence thereof) about the site provided by the client, and others identified herein. Except as otherwise stated in this report, CEI has not confirmed the accuracy of this information.
- 6.4 The data reported and the findings, observations, and conclusions expressed in the report are limited by the scope of services, including the extent of subsurface exploration and other tests. The scope of work was defined based on the MDNR approved Closure Plan.

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VVA ORMANIE

February 3, 1995

Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397 (517) 264-8500 Fax (517) 264-8246

Ms. Jude Woodcock
Michigan Department of Natural Resources
Surface Water Quality Division - Permits
Stevens T. Mason Building
P. O. Box 30028
Lansing, Michigan 48909-7258

Re: NPDES Permit Number MI 0026034

Dear Ms. Woodcock:

This letter is in response to our telephone conversation on February 2, 1995 concerning the Outfall 001 composition and SIC codes for Page 33. I am providing you with the numbers that should accurately reflect our permit application submitted in March of 1994.

These should be corrected as follows:

Process Water 95,300 GPD Sanitary water 15,000 GPD

(Non-contact)

Cooling water 29,700 GPD

Total 140,000 GPD

Our SIC codes for Page 33 of the application should be as follows:

 Process 1
 2869, 2821

 Process 2
 2869, 2822, 2821

 Process 3
 2869, 2822, 2821

 Process 4
 2869, 2822, 2821

The description of the wastewater process in the application is correct. I believe this information provided should answer all of your concerns.

Yours truly,

WACKER SILICONES CORPORATION

bert O. Sullivan

Robert O. Sullivan Administrator,

Environmental Regulations

CC: J. Shull

ACTIVITY REPORT: SCHEDULED INVESTIGATION

FACILITY: WACKER SILICONES CORP SRN: A2849 LOCATION: 3901 SUTTON RD DISTRICT: JACKSON CITY: ADRIAN COUNTY: LENAWEE CO CONTACT: ROBERT O SULLIVAN ACTIVITY DATE: 08/21/97 REPORT DATE: 09/10/97 STAFF: MDM TRAVEL TIME: 2.5 HRS LEVEL OF INSPECTION: 2 FACILITY COMPLIANCE STATUS: U TIME ON ACTIVITY: 62HRS SOURCE CLASS: []NSPS []NESHAP []PSD [x]TOXIC [x] OTHER

REMARKS:

The facility was targeted for a facility compliance inspection. This was the result of the facility being granted a 208(a) opt out of the ROP program. The company is in the business of manufacturing silicon based fluids, sealants and rubber compounds. I arrived at the facility at 8:30 a.m. on Aug. 20th and met Jim Schull and Bob Sullivan. The entire day was spent reviewing their permit record as it compared to the 1996 EI. This was also the time to request production records and their calculated emissions for the first seven months of 1997. During this review we foundmany problems in the existing permits. There was gross inconsistencies in how many of the permits were generated and an indication that compliance concerning many processes would be difficult to assess, as presented. The facility engineer, Jim Schull, echoed my concern the way the permits were structured. We endeavored, however, to go thru the permits and discussed many that appeared to be active that maybe appropriate to void. Sullivan was dismayed that permits, under review, were not issued as yet that would consolidate and update many of the processes. I indicated that we needed to review what was on record. would be an aid in assessing future permits as to their intent to reduce confusion and anomolies. I was able to provide them with records that they lacked and benefited on missing records that they, in turn, were able to provide. I left the facility at 4:30 p.m.

I returned on to the facility at 1:00 p.m. on August 21st for the purpose of conducting the facility inspection. After some delay, I was escorted by Jim Schul and some maintenance staff thru the facility where we spent the afternoon going over the permitted processes. After the inspection I indicated that a number of condenser, scrubbers and fabric filters need to be monitored with

NC=NONCOMPLIANCE STATUS CODES: C=COMPLIANCE NO-NOT OPERATING U=UNDETERMINED

NAME: 71/26m Thatlem DATE: 12/29/97 SUPERVISOR

Page 1 (CONTINUED)

A-JA-01797

ACTIVITY REPORT: SCHEDULED INVESTIGATION A-JA-01797

FACILITY: WACKER SILICONES CORP

SRN: A2849

REMARKS:

records being kept. That resulted in a letter sent to the company, dated August 27th, that is attached. They, in turn, responded back on some of the issues on October 10th. Subsequent conservations with Mr. Sullivan on December 11th, will result in further correspondence sent to me to address issues not responded to as yet and clarify other issues submitted.

The way many of the permits are structured and are appended it makes it difficult, at best, to assess compliance. One permit that was approved on August 26th, after the inspection, has voided a number of permits. For a proper reference point to work from, that status will not be addressed in this report. Those voided permits will be looked at later to assure that the new permit accurately represents the content of those permits.

The following table will list the active permits at the time of the inspection. A number of permits will contain a status of "U" that indicates "undetermined". The narratives following this table will try to detail each permit and explain, to the ability of the writer, each status. It is hoped that the pending permits, that are intended to consolidate operations, will clarify and streamline operations that will make compliance assessments possible.

Source/Contol	Permit/Rule	Status
Four HCl storage tanks and unloading truck station/fume scrubber.	Permit 265-73	Void
Four process vessels in Hibay/baghouse control.	Permit 210-75	C Voided 4/24/18
Addition of one vessel and bag opening machine/baghouse control (see permit 210-75).	Permit 210-75A (/58-97)	C Vci.feD 4/24/98
Addition of alternate process vessel to permit 210-75A/ bag-house control.	Permit 210-75B	C Voided 4/24/98
Moved three vessels from permit 210-75 to new dust collector removed one vessel and added four new ones.	Permit 210-75C	C Voidel 4/24/98
Added reactor to collector under Permit 210-75 and installed	Permit 210-75D ·	U Voided 4/c4/+8

ACTIVITY REPORT: SCHEDULED INVESTIGATION

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FACILITY: WACKER SILICONES CORP	SRN: A2849		
REMARKS:			
alternate vessel to collector under Permit 210-75C.			
Added mix tank to collector under Permit 210-75C.	Permit 210-75E ((158-37)	С	Voiled 4/24/98
Three boilers-fired on natural gas or No.2 oil	Permit 441-75 /	С	
Silica handling system in the HCR building/Sly baghouse.	Permit 375-76 (565-96)	С	Usided 4/24/9%
Altered Permit 375-76 by adding two additional vessels and scrap collection system/Sly baghouse.	Permit 375-76A (565-96)	С	Voi.fel 4/21/98
Silicon fluids mfg. in Hibay- reactor /condenser and film evaporator/liquid vacuum pump.	Permit 957-79 √ (/58-97)	С	VoideD 4/24/98
Claimed changes to Permit 957- 79 by replacing reactor and adding condenser and liquid phase separator on another reactor.	Permit 957-79A V	Ū	Voidel 4/24/98
Modify Permit 957-79 (?) by add- ing new reactor and Falling Film Evaporator (FFE), modify Wiped Film evaporator and added additional FFE.	Permit 957-79B (158-97)	Ū	Voide 4/24198
Referenced changes to Permits 957-79A & B by replacing reactor.	Permit 957-79C ζ(58-97)	ΰ	Voidal 4/24/96
Polymer Mfginstalled two mixing vessels (one as backup)/ caustic scrubber.	Permit 37-81 / (525-828)	ΰ	Voided 4124/98
HCR area- installed nine mixers/ filter condensers, three mixers with no controls and two gum reactors ducted to fume scrubber.	Permit 84-81A	υ	Voided 8/15/90
Claimed to modify Permit 84-81A, by adding two base mixers and powdered mixer/filter condenser,	Permit 84-81C / (565-96)	υ	Voided 8/26/27

ACTIVITY REPORT: SCHEDULED INVESTIGATION

A-JA-01797 FACILITY: WACKER SILICONES CORP SRN: A2849 **REMARKS:** added fume scrubber to Mixer 602 and increased capacity on Mixer 711. This permit was structured independent of Permits 84-81% and dependent of Permits 84-81A and 8/26/37 (565-36) 84-81C, with addition of gum reactor, ducted to fume scrubber. Another stand alone permit add- Permit 84-81E \vee U \vee of \mathcal{LO} 8/24/97 ing mixer/filter condenser. (565-96) Permit 494-81 U Voided Rotary cone vacuum dryer/vacuum pump and baghouse. Two bag dump 4/24/98 stations/fabric filters. Permit 597-81A NC Voiled RTV area- Modify Permit 597-81 (nine mixers/fume scrubber) by 4/24/98 (597-81B) adding additional mixer to scrubber. Permit 628-81 U Voidel RTV area- Installed three 8/24/97 storage tanks with ejector (565-96) scrubber jets, ducted to caustic scrubber. Permit 658-81 RTV area- mixer connected to vent scrubber, this mixer plus three mixers connected to three fabric filters. RTV area- bag dump station/ Permit 777-81 (565-96) 8/24/97 fabric filter. Permit 184-82 Fluids area- Existing three reactors with vacuum pump controls, one new and two existing wiped film evapora-U Voided 8/26/97 HCR Bldg.- Bag dump station/ Permit 337-82 fabric filter. (565-96) Permit 486-82 Cyclics Area- Install cyclizer reactor and two vacuum pumps, ducted to existing scrubber.

Also includes six distillation

ACTIVITY REPORT: SCHEDULED INVESTIGATION

A-JA-01797

FACILITY: WACKER SILICONES	CORP	SRN:	A2849	
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REMARKS:

columns and seven storage tanks.

U Voided Permit 525-82 Polymers Area- Two existing reactors connected to venturi 4/24/98 (525-82B)V scrubbers and then to caustic scrubber.

Modify Permit 525-82 by adding Permit 525-82A Voided two reactors and having processes listed under Permits 184-82 and 486-82 ducted to subject caustic scrubber.

Modify Permit 525-82A by adding Permit 525-82B . continuous reactor/caustic scrub-

ber, new bag station/fabric filter. A number of deletions of equipment also incorporated.

Hibay area- Installed dump sta- Permit 240-83 tion with bag filter.

4/24/88 (565-96)

Hibay area- Using existing reactor Permit 378-88 for solvent blending, provided nitrogen blanket for control.

Voided (158-97)

Proposed to install chemical polishing process (CMP)/no controls required.

Permit 61-96

Permit 265-73:

This permit represents four 20,000 gallon HCl storage tanks, a truck unloading station whose emissions are controlled by a fume scrubber. I did not see this listed in the EI, nor did the files indicate that the permit was voided. I observed the location where the scrubber and tanks were. The scrubber and tanks Nos. 417,418 and 419 were removed in 1979. The company will assure that the permit will be voided during the development of the recent permits being considered for consolidation.

Permit 210-75:

This permit involved process vessels T-928, T-927, R-902 and R-905. The fumed silica dust, when added to the reactors is captured by an Aget dust collector, then called DC-903. The collector is now renumbered DC-09140. I found the mag gage used for pressure drop across the collector was unreadable.

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REMARKS:

They admitted that no periodic monitoring is kept. ted that I want the gage replaced and a system of monitoring set up with logs kept. My attached letter of Aug. 27th makes that request and is attached. Their submittal of October 10th that is attached, reflects that request. Cond.4 of that permit limits opacity to 20%. They comply as no visible emissions were observed.

Permit 210-75A:

This permit was issued 3/23/76 and revised 1/24/84 and alters Permit 210-75 by adding one reactor vessel (910) and a bag opening machine. Instead of listing the entire process and voiding Permit 210-75, the changes are only listed leaving the previous permit active. Only Cond.11 has any meaning, limiting opacity to 20% which was discussed in Permit 210-75.

Permit 210-75B:

This permit, issued 5/30/78 and revised 1/24/84, now alters Permit 210-75A by adding an alternate (backup) vessel. No changes in permit conditions.

Permit 210-75C:

This permit, issued 5/16/80 and revised 1/24/84, now alters Permit 210-75 by moving mixers M-920, T-925, T-927 over to a new collector, DC-904 (now DC-0914-02). This dust collector also picked up four new reactors, R-910, M-919, M-922 and T-942. Inspection found the baghouse to meet the opacity limit of 20%. A mag gage was on the collector for the pressure drop that was reading 2 to 3 inches of H2O. The drum to collect the hopper material was missing. My attached letter asked that the drum be there at all times and that monitoring parameters for the collector be contained in their recordkeeping format, which is attached.

Permit 210-75D:

The permit, issued 8/10/82 and revised 1/24/84, indicates that it is a revision to Permit 210-75C which was involved with collector DC-904 (DC-0914-02). The permit, however, has to do with adding an alternate vessel that will be controlled by collector DC-903 (DC-0914). Creating these conflicts and not voiding any of the previous permits makes compliance inspections difficult, at best.

Permit 210-75E:

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REMARKS:

This permit added mix tank R-911 in the Hibay and ducted it to DC-904 (DC-914-02). They meet the 20% opacity limit. narrative under Permit 210-75C.

Permit 441-75:

The subject permit reflects three Clever Brooks boilers at 14 MMBTU/hr/boiler. Originally permitted for natural gas or No.2 oil, it was later permitted to burn a waste oil (Mobil Therm 603), up to 20%, that is generated on site. Inspection revealed that the oil storage tank and associated piping had been removed. The boilers run only on natural gas. The generated waste oil is shipped off site for recycling. indicated that it would make good sense to update the permit, reflecting natural gas as the only fuel used. They indicated that they would followup on that change.

Permit 375-76:

This permit has to do with the silica handling system that is connected to some 12 mixers and blenders. It is also involved with housekeeping pickups in the area. These emissions all go to a Sly Baghouse that is now labeled DC-0736. They indicated that the use of the baghouse has been reduced in recent years. I indicated that since it was out in the elements, I inquired as to the potential of material bridging in the hoppers. He indicated that has happened. I indicated that since there was no gages on the baghouse and a lack of daily monitoring, how would they assure a proper operation. They didn't have an immediate I indicated that I would like to see a pressure drop gage on the system to guard against bridging and any bag failure. Their submittal of Oct. 10th indicated that they would only take a noontime reading of the stack. I will be writing the facility to stress the importance of diagnostic instruments. They have an opacity limit of 20% which they are complying with.

Permit 375-76A:

The permit alters Permit 375-76, but does not void that permit. Two additional vessels and a ceiling hood to capture fugitives for a scrap bag collection system. No change in permit conditions. See narrative under Permit 375-76.

Permit 957-79:

This permit is involved with the silicon fluids manufacturing in the Hibay area. It was approved 6/20/80 with the installation of a reactor R-910 controlled by condenser RX 901.

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REMARKS:

installed is a Pfandler Film Evaporator C-911 controlled by a liquid vacuum pump P-969. The permit was updated 11/10/81 by introducing two new raw materials, Poly-G and S-110, into the operation. It was then updated 1/18/82 with the introduction of methylene chloride and an emission limit of 250#/yr. It was updated again on 3/25/83 with the introduction of p-Methoxyphenol into the process. It was also revised 1/24/84 with no changes The last revision came 10/28/87 with the addition of sec-Butylamine into the process.

Cond.12 of the permit limits VOC emissions to 88.49 lbs/hr nor 11.43 tons/yr. The 1996 that includes additional equipment under Permit 957-79C reflects emissions of 1.04 lbs/hr and 3.34 tons/vr.

Cond.15 requires that condensers shall have cooling water flow This is in place on RX 901 with a pressure/temperature switch HX090101. Parameters are being logged as requested, see attachment from facility dated 10/10/97.

Conditions 16 thru 30 lists a number of compounds with small concentration limits. This appears to be an effort to address the many compounds contained in their formulations back then. The 1996 EI does not reflect these compounds in present formulations. It is anticipated this will be addressed in the new consolidation permits being drafted.

Permit 957-79A:

This permit has lead to confusion as they have made numerous revisions of Permit 957-79 above and now revise that permit with 957-79A that was issued 4/7/81. They indicate that reactor R-901 is being replaced with a larger unit and that a vapor condenser and liquid phase separator are being installed on reactor R-902. The problem with this, is neither reactors are mentioned in Permit 957-79. The permit was further revised in 1/24/84 and 10/17/84. The latest modification reflects the replacement of reactor R-902 with a larger unit. This permit reflects component modifications to the system noted under Permit 957-79, while the many modifications to Permit 957-79 were for material changes. This left anomolies in the permit conditions between the two permits. Permit 957-79A still retains tons/yr limits for listed compounds, while the supplemental list under Permit 957-79 (1987 modification) has only lbs/hr limits. Cond.12 limits VOCs to 66.4 lbs/hr and 10.5 tons/yr. the emissions for 1996 (see Permit 957-79) show compliance, the limits differ from Permit 957-79, modified in 1987. The is, in turn, another set of limits in 957-79B, modified 3/6/85.

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Cond. 16 thru 26 again, list a number of compounds with low concentration limits that are not reflected in the 1996 EI.

Permit 957-79B:

This permit modified Permit 957-79 and was issued on 8/4/84. This reflected replacing reactor R-903 with a larger unit, modify the evaporator C-911 and add a Falling Film Evaporator (FFE), X-932. As can be noted, reactor R-903 is not listed in Permit 957-79. The permit was further modified on 3/6/85 with the addition of a silicon fluid, F-1005. Cond.16 of that revision limits VOC emissions to 88.37 lbs/hr and 11.39 These differ with Permits 957-79 and 957-79A, as previously noted. Cond.20 thru 37 list a more expansive list of compounds in concentration limits, that are not noted in the EI. The limits are also only in lbs/hr, which differs from Permit 957-79A.

Permit 957-79C:

This permit was issued on 1/11/89 and notes a modification to Permits 957-79A and 957-79B with the replacement of reactor R-902 with a larger unit. This is puzzling as the permit reflects the same change that was approved on 10/17/84 under Permit 957-79A. Conditions 12,13, 18 thru 29 again list a number of compounds with low concentration limits. This list is longer then under 957-79A and also differs, in that, limits are in lbs/hr while limits under 957-79A are in lbs/hr and tons/year. As stated prior, the 1996 EI did not list any of these compounds. had VOC limits of 88 lbs/hr and 12.3 tons/yr. As indicated prior, they comply with these limits, though that is now four sets of VOC limits listed, as all of these permits, 957-79 and appended, are active.

Permit 37-81:

This permit was issued 2/26/81 and involved a mix tank T-862 being utilized as a reaction vessel with emissions ducted to a caustic scrubber, FS-801 in the polymer manufacturing. A revision to the permit was made 6/29/82 for the introduction of a new textile finishing product (F-432A). The permit was revised 7/12/82, allowing for "solvent or fluid-mixing-blending" without use of the scrubber. Comments in the file of 11/4/83 relate that a N2 blanket has been installed and that there is no need of a scrubber. A revision was made to the permit on 5/26/87 of the use of Cinnamic Acid in the products. On 3/8/89, the permit was further revised to reflect the installation of a backup reactor vessel R-808 for solvent and silicone fluid

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REMARKS:

mixing/blending and the removal of the caustic scrubber. company admitted to me that the scrubber was never installed from the 1981 approval. I am presuming that the system is just mixing/blending as the scrubber is not being required. of the permit limits VOC emissions to 8.8 lbs/hr nor 0.46 tons/ year. The 1996 EI meshes these emissions under Permit 525-82B which totalled 0.52 tons. Cond.18 thru 22 list a number of compounds with low concentrations limits that are not listed in the EI.

Permit 84-81A:

Permit 84-81 was voided, due to the issuance of Permit 84-81A and included initially 9 base mixers with filter condensers. A second phase, under Permit 84-81 was the installation of a vent scrubber, FS-701 to polish those emissions and also take emissions from two gum reactors, R-601 and R-602. These processes are in the Heat Curable Rubber (HCR) area. This later was revised to include a backup vent scrubber that services the RTV area, FS-902. The nine base mixers were labeled M-601, M-602, M-603 and M-702 thru 706. Under this and later revisions a number of compounds were introduced. Permit 84-81A was issued on 3/23/85 that included the above equipment with the following changes: Mixer M-601 was replaced with a larger unit, R-707 with filter condenser. A new mixer is to be added, R-708 with filter condenser. All base mixers plus the two gum reactors would be ducted to fume scrubber, FS-701. Fume scrubber, FS-902 would become a backup control that is permitted under 597-81. permit was revised on 11/6/89 that allowed mixers M-702 and M-706 to be without filter condensers, as they were involved with just cold mixing of finished silicon compounds. Mixers 709 and 710 were to be installed with filter condensers. Revision to the permit dated 3/15/90 allows the company to use mixer M-602 for liquid rubber manufacturing, provided that it is ducted to the scrubber FS-701. The permit conditions note that the backup scrubber, FS- 902 from Permit 597-81, has been renumbered to There is some conflicts in the permit as the permit allows three of the twelve mixers to be without controls and yet the permit conditions list all units being required to have filter condensers. Another problem that is perplexing is that the original permit had VOC limits of 4.06 lbs/hr and 6.01 tons/yr. This latest revision allows 6.42 lbs/hr and 30.38 There appears to be a gross error in the yearly tonage tons/yr. figure as the peak lbs/hr limit using 8760 hours would be less than the 30.38 tons. The permit was again revised on 8/15/90 by adding a qum reactor R-603 and a continuous reactor R-605, both controlled by fume scrubber FS-701. The revision also allowed mixer M-711 to be used for silicon rubber production 50% of the

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REMARKS:

time.

Cond.14 limits opacity to 20%, which they comply with.

Cond.16 limits the VOC emissions for the 9 base mixers/condensers, 3 base mixers with no controls, four gum reactors plus 50% use of M-711 to 8.8 lbs/hr and 36.91 tons/yr. Unknowns have entered into this tonage emission as the 3/15/85 permit allowed 4.06 lbs/hr and only 6.01 tons/yr. Subsequent revisions have reflected the 30 tons/yr figure with no background other then the figure was first shown in a submittal by the company in March, 1989 with no apparent support for the figure. The 1996 EI indicated emissions of 0.42 tons for that year.

Cond.19 required to have filter condensers on all base mixers, which is in conflict with the permit that allows three base mixers to be without controls. Mixers M-702 and M-706 were allowed to be without controls in the 11/6/89 revision. After my inspection, I had requested the company to put together a monitoring program which is their attachment of Oct. 10th. Also reactor M-711 was without a filter condenser. That has been corrected and is included in the monitoring program submitted.

Cond.20 stipulates that the gum reactors shall be controlled by fume scrubber FS-701. The 2/12/90 correspondence that is referenced in the permit has a conflict with this requirement. The attached correspondence indicated the gum reactor, R-605, would not go to the scrubber, but rather to the vacuum pump system, P-631. I will be following up with the company and Nick Zabrodsky, who is working on the permit revisions.

Cond.21 requires to have a properly operating flow alarm system on the scrubber. I found that no real monitoring is kept nor understanding of the parameters they should be concerned with that the instrument measures. The monitoring program submitted is their effort to focus on the operational range of the flow system and their recordkeeping.

Cond.23 requires scrubber FS-202, from Permit 597-81A, to be interconnected if needed as a backup control. This has been done.

Conditions 24 and 25 emphasized the mixer/stack layout that again emphasized that filter condensers were to be on all the base mixers.

Cond.26 thru 29 lists small concentration limits for compounds in connection with operating mixer M-602. At time of inspection, it

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REMARKS:

was found that mixer M-602 was removed.

Cond.30 requires mixer M-711 to be ducted to the FS-202 scrubber when liquid rubber is being produced. This is in place.

Permit 84-81C:

To the existing silicon products manufacturing process (Permit 84-81A), two base mixers have been added, M-712 and M-713, and powdered mixer M-714, all controlled by filter condensers. Also an addition of fume scrubber FS-702 for mixer M-602 during liquid rubber production and an increase in base mixing capacity on mixer M-711.

Con.14 has a 20% opacity limit, which is complied with.

Cond.16 stipulates the VOC limits to be 11.53 lbs/hr and 53.91 tons/yr. This condition reflects the continued problem with the many revisions of permit 84-81A as the yearly tonage limit violates the maximum lbs/hr limit when calculating on 8760 hours. Again, the 1996 EI reflected emissions of only 0.42 tons/yr.

Cond.19 requires that all base mixers and mixer M-711, when using for rubber base production, have filter condensers. The conflicts that arise are noted in Cond.19 of Permit 84-81A.

Cond.20 requires that fume scrubber FS-701 or fume scrubber FS-202 be installed and operating properly when ,operating gum reactors. See conflict in permit language under Permit 84-81A, Cond.20.

Cond.21 requires flow alarm system on FS-701 and FS-702 scrubbers. These components are in place with monitoring commitments contained in the company's Oct. 10th response. The two scrubbers are relabeled, respectively, SC-073102 and SC-0731.

Cond.25 requires the exhausts from the filter condensers on mixers M-602, M-603, M-701, M-702, M-704 thru M-708, M-710 thru M-714 to discharged to 21.5 foot stacks. This brings up the previous discussion concerning the conflicting language as to what mixers require filter condensers. Also note that mixer M-710 has been connected to a higher stack as previously under Permit 84-81A. Also, at inspection mixers M-602, M-603, M-701 and M-705 have been removed.

Cond.26 requires the exhausts from the filter condensers on mixers M-703, M-709 and M-711 to be ducted to one stack. As indicated above mixer M-711 has been moved from this exhaust

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REMARKS:

system. See narrative and conflicts in requirements noted under Permit 84-81A.

Cond.27-29 lists pollutant concentration limits for various compounds for mixer M-602. As indicated under Permit 84-81A the 1996 EI does not represent data specifically for that mixer. noted above, this mixer has been removed.

Cond.30 requires that mixer M-602 is to be connected to fume scrubber FS-702 (now SC-0731) when manufacturing liquid rubber. As noted above this mixer has been removed.

Permit 84-81D:

This permit was structured independent of permits 84-81A and 84-81C. A gum reactor, R-607, was added and tied into fume scrubber FS-701 (now SC-073102).

Cond.15 limited VOC emissions to 0.7 tons/yr, per 12 month rolling average. As previously discussed, emissions from all of the processes connected with 84-81 totaled 0.42 tons for 1996. Data has been distorted as siloxanes no longer considered a VOC. Their data system is not presently set up to report these components individually on a '12 month rolling average.

Cond.18 & 19 address proper operation of scrubbers with flow alarms installed. This has been addressed under permits 84-81A &

Cond.23 requires mixer to be connected to one of the 27.5 high stacks, which they comply with.

Permit 84-81E:

A stand alone permit adding mixer MXO-719 that is identical to mixer MXO-713 (was M-713 in Permit 84-81C). Filter condenser required.

Cond.13 sets siloxane limit on mixer MXO-719 to 2.3 lbs/hr and 10.0 tons/yr, on a 12 month rolling average. At time of inspection, recordkeeping was not set up to report the data on this mixer. The 1996 EI does not list that emission component, as required.

Cond.14 limits NH3 emissions to 0.1 lbs/hr and 0.5 tons/yr, on a 12 month rolling average. Data system not set up for calculating these emissions for this mixer. The 1996 EI reflected NH3 emissions for all of the components under the appended

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FACILITY: WACKER SILICONES CORP

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REMARKS:

84-81 permits to be 0.51 tons.

Cond.17 requires scrubbers to be operated while emitting NH3. Permit is in conflict as the mixer is required to only have a filter condenser and not indicated to be ducted to a scrubber.

Cond.18 requires that a portable powder charging station be used for particulate control. They are complying with this.

Cond.19 requires a filter condenser to be installed and operating properly on mixer MXO-719. There was no filter condenser system on the mixer at time of inspection. This has been corrected as reflected in their Oct. 10th response.

Cond.20 requires scrubbers to have liquid flow indicators. Though not referenced in the permit, the scrubbers are addressed in permits 84-81A & C.

Permit 494-81:

The permit was issued 9/17/81 which involved the installation of a rotary cone vacuum dryer with vacuum pump and baghouse (DC-100). Also included was two bag dump station with collectors DC 101A & 101B. There is confusion concerning this permit as records do not indicate that it was modified and yet the bag dump with collector DC-101A was later approved under Permit 777-81 and the bag dump with collector DC-101B was later approved under Permit 337-82. I will be having discussions with the facility concerning this permit as their EI does not mention the permit.

Permit 597-81A:

The permit was issued 2/27/85 for the installation of a Myers mixer, M-916, connecting to the existing fume scrubber, FS-202. This is located in the Room Temperature Valcanization (RTV) area. As Permit 597-81 was voided, this permit also included Ross Mixers M-908, M-903, M-909, M-917 and M-228; Myers Mixers M-924 and M-918; rotofeed mixers M-921 and M-923 and 4 roll mills. The permit was revised 12/12/89 by adding a new mixer M-711, to be vented to the fume scrubber FS-202. The permit was again revised on 2/24/95 with the addition of two mixers. There will now be 8 small mixers in the RTV mixing and three mixers in the special base mixing. The three mixers will be followed by a condenser while all units will be controlled by two scrubbers in series.

Cond.11 limits VOC emissions to 1.76 tons/yr and lists five compounds with lb/hr emission limits. As to the compounds

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listed, Ethyl Silicate had a limit of 0.11 lbs/hr with the 1996 EI indicates the emission rate to be 0.04. The limit for mineral spirits is 0.17 lbs/hr with the 1996 EI indicating an emission rate of 0.37, a violation as presented. The VOC emission for 1996 was 2.56 tons, which is a violation, as presented.

Cond.12 limits NH3 emissions to 0.46 lb/hr and 0.6 tons/yr. The 1996 EI indicates the emissions for 1996 to be 0.01 tons.

Cond.14 requires that the fume scrubber, FS-202 shall be installed and operating properly. The scrubber is in place with the monitoring program submitted as mentioned prior.

Cond.15 requires a flow alarm to be installed and be functioning properly on the fume scrubber. This is installed with monitoring and recordkeeping system being conducted. (See attachment dated 10/10/97.)

Cond.18 requires records to be kept on the number of batches made and sets limits of 2032 batches per 12 month rolling average in special base mixing and 2400 batches in the RTV mixing process per 12 month rolling average. The 1996 records indicate the total batches produced to be 2000.

Though not mentioned in this latest permit revision, a previous requirement was the interconnection of scrubber FS-701 (SC-073102) that serves as a backup unit to the process. This permit is now being updated. A number of issues discussed above will prompt me to work with Nick Zabrodsky to assure we do not continue to have these anomolies and deficiencies in reporting and calculating emissions.

Permit 628-81:

The permit was issued 11/9/81 and reflected two storage tanks, T-122 and T-309N that handle Dimethyl-1-dichlorosilane, a caustic storage tank, T-850, three ejector-venturi scrubbers and a final caustic scrubber in the RTV area. The permit was revised 3/8/82 with the proposal to install an added storage tank to the scrubber system, T-350. The permit was again revised 1/24/84 that appears to reflect only that they decided not to install tank T-350.

Cond. 10 & 11 set silane and HCl limits, which cannot be verified as database is not contained in their EI.

Cond.13 requires emissions of the storage tanks to be ducted

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REMARKS:

to the caustic scrubber and that the caustic scrubber be operated properly. At time of inspection the flow rate to the scrubber was not being monitored, nor was the pH and hypochlorite feed being measured. (See letter to company dated 8/27/97.) I found the pump running from a drum to the scrubber at a fixed unknown rate and not being monitored. The solution is labeled as CW8 being 17% hypochlorite in a NaOH solution. As the result of the inspection, the company submitted a monitoring program Oct. 10th that contains this scrubber and parameters to be recorded. The scrubber has been relabeled TKO-550.

One item that is missing in the latest revision is the mention of the ejector-venturi scrubber jets (J-850A,B,C) prior to the caustic scrubber. I will be discussing this issue with the facility.

Permit 658-81:

Issued 2/11/82 for a blade mixer, M-927 with a dust collector, DC-906; three Ross mixers, M-926A, M-926B and M-910 with the dust collector DC-906 and a vacuum system P-997; two bag dump stations with dust collectors DC-905A & 905B with mixer M-927 connected to fume scrubber, FS-203. This equipment is located in The permit was later revised 10/8/82 and 1/24/84. the RTV area. Since this permit issuance a number of changes have been made. Mixer M-927 was moved to the HCR area and is now labeled MXO-740, that is now under Permit 84-81E, with its emissions controlled by fume scrubber SC-0731. The two bag dump stations were pulled out and placed in the Hibay area. Mixers M-926A and M-926B are renumbered to MXO-226A and MXO-226B. Those go to the vacuum system and dust collector, DC-206 (previously 906). The fume scrubber, FS-903, has been removed. I indicated that this permit needs to be updated to reflect the deletions and updating the component numbers.

Cond.10 limits VOC emissions to 0.09 lbs/hr and 0.07 tons/yr. The 1996 EI lists this as less than 0.01 tons.

Cond.12 thru 14 reference the bag dump dust collectors and scrubber that have been removed or relocated and addressed under other permits.

Permit 777-81:

This permit, issued 2/8/82 and revised 1/24/84, describes the installation of a Young bag dump station controlled by dust collector DC-101A. The requirements are to assure the filter is installed and operating properly and the exhaust shall exhibit no

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visible emissions. They are complying with these requirements.

Permit 184-82:

This permit was issued 7/7/82 and addressed three existing reactors, R-803, R-805 and T-861 controlled by three mechanical vacuum pumps, P-834, P-865 and P-867. This permit also includes three wiped film evaporators, C-802, C-803 and C-804 and four storage tanks T-838A, T-838B, T-839 and T-847. The permit is attached with revisions of 1/24/84 and 3/24/86. Discussions of this permit were overlooked during the conferences and field inspection. The files do not indicate the permit is voided and the EI database does not list the permit. Discussions with the company will be initiated to resolve the status of this permit.

Permit 337-82:

This permit has to do with a bag dump station in the HCR area. The dump station has a dust collector, DC-101B. The permit requires that the dust collector be connected and operating properly and that the exhaust have no visible emissions. They are complying with those conditions. As this permit was not addressed in the 1996 EI, I indicated to the facility to have it address in next years.

Permit 486-82:

This permit was approved 3/25/83 and involves operations in the Cyclics area. To install cyclizer reactor, T-528 and two new vacuum pumps, P-523A and P-523B, and ducted to existing vent scrubber T-850 (now TK-0550). The permit also includes 5 distillation columns, C-502. C-503, C-505, C-506 and C-508. Also included were storage tanks T-502, T-506, T-510, T-517, T-519, T-521A and T-521B. Also included are two existing cyclizer reators, T-503 and T-516 and one vacuum pump, P-517. The permit was revised 9/4/84 to include blending of crude silicon fluid to the cyclizer, T-528. The permit was revised again to install a vent stack on scrubber T-850 (now TKO-550) and to temporarily blend new(?) crude silicon fluid to the cyclizer. The final revision was made 5/29/90 that curtailed temporary emissions of methylene chloride and perchloroethylene and revised VOC limits.

Cond.14 limits VOC emissions in the cyclics area to 1.31 lbs/hr and 5.32 tons/yr. The 1996 EI does not note that permit specifically but is assumed to include those emissions under Permit 525-82B. The VOC emissions only total 0.52 tons.

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REMARKS:

Permit 525-82:

Issued 6/8/83, the permit addresses existing reactors R-401A, R-401B, R-801, R-802, R-804 amd R-807, all connected to venturi scrubbers, J-850A,B,C and caustic scrubber T-850 (now TKO-550). These controls are also utilized under Permit 628-81. The permit was revised 11/14/83 with the addition of Sodium Methylate to be used in the caustic scrubber and further revised 1/24/84 to replace the three scrubber jets with one unit, J-850D. jets would be retained as backups. The permit was then modified on 1/14/85, that included adding a vent stack to the caustic This permit was not addressed in the EI nor do records scrubber. indicate that it was voided. Confusion arises as later Permit 525-82A notes revisions to Permit 525-82 and is later voided to be replaced by Permit 525-82B.

Cond.10 sets HCl limit for the six reactors. The 1996 EI does not indicate this pollutant in the database, due to formulation changes over the years.

Cond.11 set formaldehyde limit of 250 mg/M3. The 1996 EI indicates that the lbs/hr was 0.003 and the tons for 1996 was 0.001. The limit in the permit is awkward to verify. Lack of any cfm data at hand prevents from easily generating comparisons. I will be working with Mr. Zabrodsky to assure that limits in the new permits will not be of these types of units.

Cond.12 sets VOC limits of 12.23 lbs/hr and 1.91 tons/yr. represented in the 1996 EI, it is presumed that the emissions are contained as a part of Permit 525-82B. The emissions reported for 1996 was 0.52 tons.

Permit 525-82A:

Though this permit was voided 10/10/96, when Permit 525-82B was issued, it is important to list some of the components which can be referred to under Permit 525-82B. This will be discussed Permit 525-82A was issued 3/22/85 and stated that it was later. modifying Permit 525-82 by indicating that emissions from equipment noted in Permits 184-82 and 486-82 will be ducted to the caustic scrubber T-850 (now TKO-550). The permit was modified 5/29/90 when it was decided not to add the emissions from the cyclizer area (Permit 486-82) to the caustic scrubber. Also reactors R-808 and R-809 were added that are controlled by vacuum systems and then exhausted to scrubber T-850. Also reactors T-528, R-401A and R-401B may be used for solvent-silicon fluids blending, that will still be ducted to the scrubber. The permit was then revised 12/19/95 with the addition of reactor RX0810 to

ACTIVITY REPORT: SCHEDULED INVESTIGATION

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REMARKS:

silicon fluids production, with no controls.

Permit 525-82B:

This permit was issued on 10/10/96 to modify Permit 525-82A, by repeating that reactor RX0810 will be installed and that scrubber T-850 is relabeled TKO-550. A Young Bag Station was added as noted by RX0811. Also a number of tanks and reactors were deleted from the processes (See attachment). Also the cyclizer vacuum pump noted in Permit 486-82 is transferred over to this permit.

The permit development has become quite convoluted. Permit 525-82 appears to still be active and yet Permit 525-82A was revising that permit and including emissions from permits 184-82 and 486-82. Permit 525-82A was then voided 10/10/96 and replaced with Permit 525-82B. In Permit 525-82B, the components were not totally listed but rather provided a list of deleted components. (See attachment.) The supplemental flow chart found in the files clears some of the confusion, but it is unclear where permits 184-82 and 486-82 stand as all three permits have varying VOC limits.

Cond.13 limits HCl emissions to 11,000 mg/M3. The 1996 EI does not note that pollutant emitted for that permit.

Cond.14 limits the formaldehyde emissions to 9,000 mg/M3 and 0.1 lb/hr. The 1996 EI indicates this pollutant to be 0.001 tons for 1996. Using 720 hours of operation results in the emission to be 0.003 lb/hr.

Cond.15 limit VOC emissions to 2.4 lbs/hr and 10.5 tons/yr. The 1996 EI reflects 0.52 tons of VOC for 1996.

Cond.18 Condition requires ejector scrubber jet and sodium hypchlorite scrubber to be installed and operating properly. At the time of inspection, scrubber parameters were not being See narrative under Cond.18, Permit 628-81. monitored.

Permit 240-83:

Issued 8/24/83, this involved the installation of a bag dump station with bag filter (DC-905) in the Hibay area for resistive molding and release agent compound line. No thruput in 1996 as reflected in the 1996 EI

Permit 378-88:

ACTIVITY REPORT: SCHEDULED INVESTIGATION

A-JA-01797

FACILITY: WACKER SILICONES CORP

SRN: A2849

REMARKS:

Issued 7/5/88, the existing reactor, R-911 is to be used for solvent blending with silicone products with the reactor being vented and having a nitrogen purge system. No thruput in 1996. They have eliminated the process and will be voiding the permit.

Permit 61-96:

Issued 4/25/96, the chemical mechanical polishing process (CMP) requires no controls but limits opacity to 0%. Appears to be a candidate to be exempted as the permits get restructured.

As can be seen, the existing permit system makes it nearly impossible to monitor the facility for compliance. It has taken many hours in attempting to sort the many issues out. As one can see more work has to be done. I would like to point out that Permit 565-96 was approved 8/26/97 that voided a number of permits mentioned here. It is important to start with a foundation to assure that this permit and future permits now being worked on satisfy the intent of making monitoring compliance more easily attainable and to eliminate the many conflicts and anomolies that now exist in the 30 odd permits.

After leaving the facility on the second day of inspection, the attached correspondence indicates the post inspection development that arose. A number of comments thru the report indicate that more issues will be brought before the facility to respond to.

NATURAL RESOURCES COMMISSION

JERRY C: BARTNIK THU CHARTERS RRY DEVUYST UL EISELE JAMES P. HILL DAVID HOLLI JOEY M. SPANO

WOHN ENGLER, GOODS

DEPARTMENT OF NATURAL RESOURCES

CROISING PO BOX 30028, WORK A8809-7528
CROISING PARTIES MEMORITY DIVISION
WASTE MAN REGION V. EPA, REGION V May 9, 1995

WASTE MANAGEMENT DIVISION PO BOX 30241 LANSING MI 48909-7741

Mr. Robert Sullivan Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

Dear Mr. Sullivan:

SUBJECT:

Closure Certification Notice of Deficiency

Container Storage Area

Wacker Silicones Corporation (Wacker)

MID 075 400 671

The Michigan Department of Natural Resources, Waste Management Division (WMD), has completed a review of the hazardous waste container storage area closure certification document for the above referenced facility, submitted February 13, 1995.

The closure certification was reviewed for compliance with the approved closure plan, R 299.9613(3) of the hazardous waste management Administrative Rules (Rules) promulgated pursuant to Part 111 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451 (Act 451) and 40 CFR 264.115. The closure certification is unacceptable due to the deficiencies listed in the enclosure, "Notice of Deficiency."

Please be advised that failure to submit two copies of a complete closure certification document by June 12, 1995 is a violation of R 299.9613(3) of the Rules and 40 CFR 264.115. Such a violation may subject Wacker to fines and penalties pursuant to Section 11151 of Part 111 of Act 451.

Additionally, the financial assurance requirements for closure, as outlined in Part 7 of the Rules remain in effect. Wacker is obligated to comply with the financial requirements until the Director of the Michigan Department of - Natural Resources releases the company from those requirements.

If you have any questions, please contact me.

Sincerely

AngeZa 1. Hahn

Hazardous Waste Program Section

Waste Management Division

517-373-7738

Enclosure

cc/enc:

Mr. Ross del Rosario, U.S. EPA

Ms. Deborah Hennessy, Jobs Commission

Mr. Martin Jacobson, DNR Jackson

Mr. Steve Buda, DNR Ms. Jan Sealock, DNR

HWP/C&E File

Notice of Deficiency

- 1. The closure certification document must include a summary of waste types and quantities removed from the site and the destination of these wastes in accordance with R 299.9613(3)(e) of the Rules.
- 2. The closure certification document must include a certification statement supplemented by the language provided in 40 CFR 270.11(d) and be signed by the owner or operator and an independent registered professional engineer. A copy of the delegation of authority must also be included for the signatory as specified in 270.11(b). At least one copy of the independent registered professional engineer's certification must have an original stamp.



Corporate Office:

4763 S. Old US 23, Suite A Brighton, Michigan 48116-8685 (810) 220-3097 • Fax (810) 220-2772

Branch Office:

5455 W. 86th St., Suite 100 Indianapolis, Indiana 46268 (317) 876-1175 • Fax (317) 876-1885

January 13, 1995

Michigan Department of Natural Resources Southeast District Office 38980 Seven Mile Road Livonia, Michigan 48152

CEI: SC-28

RE: Wacker Silicones Corporation

3301 Sutton Road Adrian, Michigan

Attached please find the Closure Report for the a Hazardous Waste Storage Pad located at the above referenced site.

It is CEI's opinion all requirement's associated with the RCRA Closure of the Hazardous Waste Storage Pad have been meet in accordance with the MDNR approved RCRA Closure Plan and, therefore, recommends closure to be considered for the site.

Please contact this office should you have any questions or require additional information.

Sincerely,

Greg Liedel

Senior Geologist

They Lich

cc: David Luch

Gordon Philbrook

File

Prepared By: Greg Liedel

Date: <u>January 13, 1995</u>

Reviewed By: Stephen Stephen Drielick, P.E.

Air & water Services

Senior Geologist

Reviewed By:

Marcus Yono

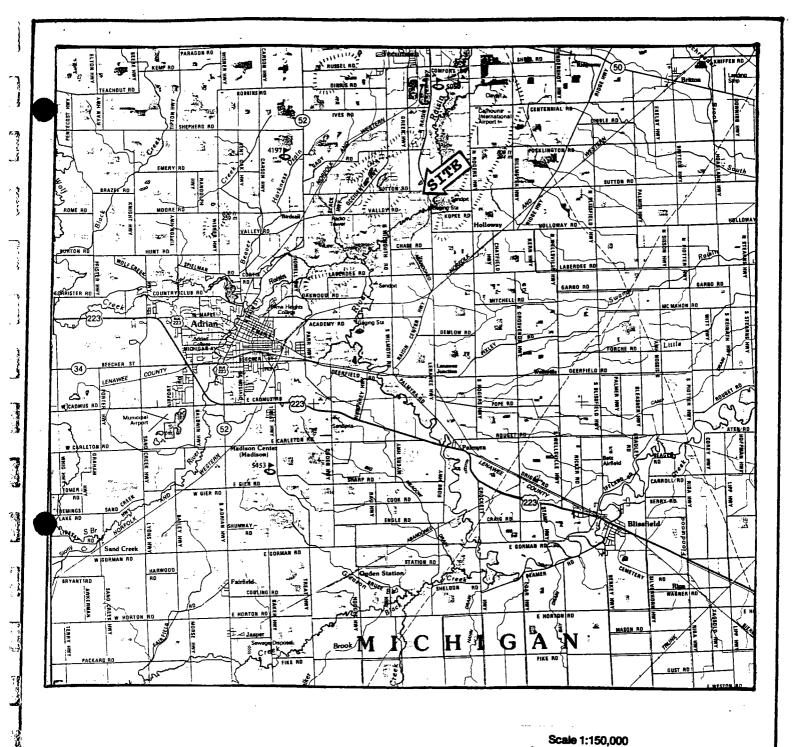
Operations Manager

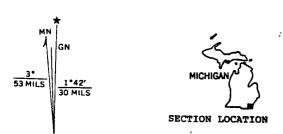
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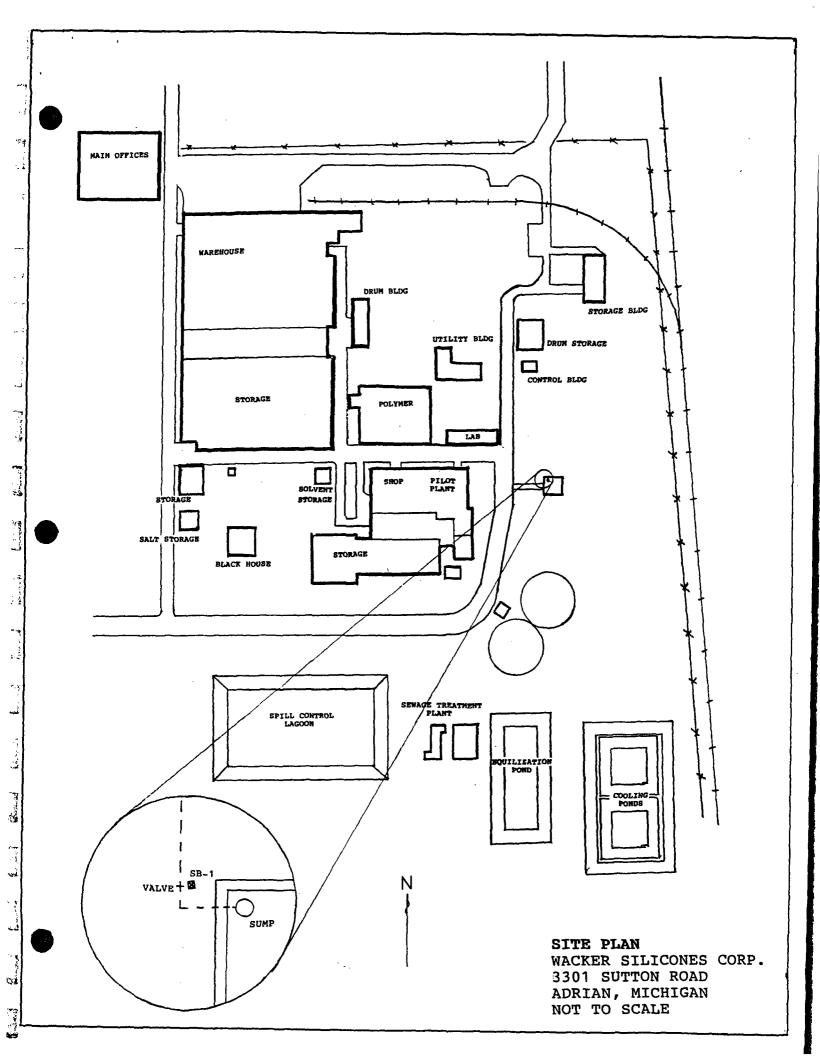


SITE LOCATION PLAN

Wacker Silicones Corp. 3301 Sutton Read Adrian, Michigan



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47930 West Road • Wixom, Michigan 48393 Phone: (810) 624-3090 • Fax: (810) 624-3095

CEI ENVIRONMENTAL CONSULTANTS

4763 S. Old U.S. 23

Suite A

Brighton, MI 48116

Eagle Report Number: 5206 Eagle Sample ID: EL20507

Date: 12/14/94

Project Name:

Wacker Silicons

Collection Date: 11/17/94

Sample Description:

Wash-1

					Analysis	
Parameters	Results	Units	MDL	Method	Date	Analyst
IPH Analysis						
Gasoline	Not det	mg/L	5	SW846 8015	11/23/94	APS
Mineral Spirits	Not det	mg/L	5	SW846 8015	11/23/94	APS
Kerosene	Not det	mg/L	5	SW846 8015	11/23/94	APS .
Fuel Oil #2	Not det	mg/L	5	SW846 8015	11/23/94	APS
Fue wil #6	Not det	mg/L	10	SW846 8015	11/23/94	APS
Volatile Analysis		,				•
Acetone	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Benzene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Bromodichloromethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Bromoform	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Bromomethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
2-Butanone (MEK)	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Carbon Disulfide	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Carbon Tetrachloride	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chlorodibromomethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chlorobenzene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
2-Chloroethyl Vinyl Ether	Not det	ug/L	10	SW846 8240	11/23/94	GTM
3 Chloroform	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chloromethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
1,1-Dichloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
🖫,2-Dichloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
2,1-Dichlotoethene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
trans-1,2-Dichloroethene	Not det	ug/L	1	SW846 8240	11/23/94	GTM.
,2-Dichloropropene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
is-1.3-Dichloropropene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
tran 3-Dichloropropene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Ethyl benzene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
-Hexanone	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Methylene Chloride	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Methyl-2-Pentanone	Not det	ug/L	50	SW846 8240	11/23/94	GTM
tyrene	Not det	ug/L	1	SW846 8240	11/23/94	GTM

Project Name: Wacker Silicons

Collection Date: 11/17/94

Eagle Report Number: 5206 Eagle Sample ID: EL20507

Sample Description:

Wash-1

Parameters Results Units MDL Method Date 1,1,2,2-Tetrachloroethane Not det ug/L 1 SW846 8240 11/23/94 Tetrachloroethene Not det ug/L 1 SW846 8240 11/23/94	Analyst GTM GTM
1,1,2,2-Tetrachloroethane Not det ug/L 1 SW846 8240 11/23/94	GTM
	GTM
	GTM
Tetrachloroethene Not det ug/L 1 SW846 8240 11/23/94	
Toluene Not det ug/L 1 SW846 8240 11/23/94	GTM
	GTM
1,1,2-Trichloroethane Not det ug/L 1 SW846 8240 11/23/94	GTM
Trichloroethene Not det ug/L 1 SW846 8240 11/23/94	GTM
Vinyl Acetate Not det ug/L 50 SW846 8240 11/23/94	GTM
Vinyl Chloride Not det ug/L 1 SW846 8240 11/23/94	GTM
Total Xylenes Not det ug/L 3 SW846 8240 11/23/94	GTM
Methyl alcohol Not det ug/L 800 SW846 8240 11/23/94	GTM
Cyclohexane Not det ug/L 1000 SW846 8240 11/23/94	GTM
1 10/	GTM
2207-0-77	GTM
	GTM
	GTM
Butyl alcohol Not det ug/L 40 SW846 8240 11/23/94	GIM
Semi-Volatile Analysis Acenaphthene Not det ug/L 5 SW846 8270 11/21/94	PRS
1 Konsuprisions	PRS
Acceptably lene Not det ug/L 5 SW846 8270 11/21/94	
An Acene Not det ug/L 5 SW846 8270 11/21/94	PRS
Benzidine Not det ug/L 5 SW846 8270 11/21/94	PRS
Benzoic acid Not det ug/L 20 SW846 8270 11/21/94	PRS
Benzo(a) anthracene Not det ug/L 5 SW846 8270 11/21/94	PRS
Benzo(b)fluoranthene Not det ug/L 5 SW846 8270 11/21/94	PRS
Benzo(k)fluoranthene Not det ug/L 5 SW846 8270 11/21/94	PRS
3enzo(g,h,i)perylene Not det ug/L 5 SW846 8270 11/21/94	PRS
Benzo(a)pyrene Not det ug/L 5 SW846 8270 11/21/94	PRS
Benzyl alcohol Not det ug/L 10 SW846 8270 11/21/94	PRS
3is(2-chloroethoxy)methane Not det ug/L 5 SW846 8270 11/21/94	PRS
Bis(2-chloroethyl)ether Not det ug/L 5 SW846 8270 11/21/94	PRS
3is(2-chloroisopropyl)ether Not det ug/L 5 SW846 8270 11/21/94	PRS
3is(2-ethylhexyl)phthalate Not det ug/L 5 SW846 8270 11/21/94	PRS
4-Bromophenyl phenyl ether Not det ug/L 5 SW846 8270 11/21/94	PRS
Butyl benzyl phthalate Not det ug/L 5 SW846 8270 11/21/94	PRS
#-Chloroaniline Not det ug/L 10 SW846 8270 11/21/94	PRS
2-Chloronaphthalene Not det ug/L 5 SW846 8270 11/21/94	PRS
Telephono Not det ug/L 10 SW846 8270 11/21/94	PRS
	PRS
4-Chlorophenylphenyl ether Not det ug/L 5 SW846 8270 11/21/94	PRS
Chrysene Not det ug/L 5 SW846 8270 11/21/94	PRS
ibenzo(a,h)anthracene Not det ug/L 5 SW846 8270 11/21/94	PRS
Di Cofuran Not det ug/L 5 SW846 8270 11/21/94	PRS
©i-n-butylphthalate Not det ug/L 5 SW846 8270 11/21/94	PRS
3-Dichlorobenzene Not det ug/L 5 SW846 8270 11/21/94	PRS
1,4-Dichlorobenzene Not det ug/L 5 SW846 8270 11/21/94	
3.2-Dichlorobenzene Not det ug/L 5 SW846 8270 11/21/94	FAFRS
	LABORATORIES

Project Name: Wacker S Collection Date: 11/17/94 Wacker Silicons

Eagle Report Number: 5206 Eagle Sample ID: EL20507

Sample Description:

Wash-1

-	_ .	·			Analysis	
Parameters	Results	Units	MDL	Method	Date	Analys
i						
3,3'-Dichlorobenzidine	Not det	ug/L	10	SW846 8270	11/21/94	PRS
2,4-Dichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,6-Dichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Diethylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4-Dimethylphenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Dimethylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
4,6-Dinitro-2-methylphenol	Not det	ug/L	20	SW846 8270	11/21/94	PRS
2,4-Dinitrophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4-Dinitrotoluene	Not det	ug/L	20	SW846 8270	11/21/94	PRS
2,6-Dinitrotoluene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Di-n-octylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
*Fluoranthene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
ੌFluorene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachlorobenzene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachlorobutadiene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachlorocyclopentadiene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachloroethane	Not det	ug/L	5	SW846 8270	11/21/94	PRS
aIndeno(1,2,3)pyrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
[so Srone	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2-Methylnaphthalene	Not.det	ug/L	5	SW846 8270	11/21/94	PRS
2-Methylphenol (o-Cresol)	Not det	ug/L	5	SW846 8270	11/21/94	. PRS
4-Methylphenol (p-Cresol)	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Naphthalene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
-2-Nitroaniline	Not det	ug/L	20	SW846 8270	11/21/94	PRS
-Nitroaniline	Not det	ug/L	20	SW846 8270	11/21/94	PRS
4-Nitroaniline	Not det	ug/L	20	SW846 8270	11/21/94	PRS
Nitrobenzene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2-Nitrophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
N-Nitrosodiphenylamine	Not det	ug/L	5	SW846 8270	11/21/94	PRS
N-Nitrosodipropylamine	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Pentachlorophenol	Not det	ug/L	20	SW846 8270	11/21/94	PRS
Phenanthrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Thenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
²yrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4,5-Trichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
3,4,6-Trichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS





Wacker Silicons

47930 West Road • Wixom, Michigan 48393 Phone: (810) 624-3090 • Fax: (810) 624-3095

To: CEI ENVIRONMENTAL CONSULTANTS

4763 S. Old U.S. 23

Suite A

Brighton, MI 48116

Eagle Report Number: 5206 Eagle Sample ID: EL20508

Collection Date: 11/17/94 Eagle Sample ID: EL20

Sample Description: Rinse-2

Date: 12/14/94

Project Name:

· · ·					Analysis	
Parameters	Results	Units	MDL	Method	Date	Analyst
TPH Analysis						
Gasoline	Not det	mg/L	5	SW846 8015	11/23/94	APS
Mineral Spirits	Not det	mg/L	5	SW846 8015	11/23/94	APS
Kerosene	Not det	mg/L	5	SW846 8015	11/23/94	APS
Fuel Oil #2	Not det	mg/L	5	SW846 8015	11/23/94	APS
Fuel Oil #6	Not det	mg/L	10	SW846 8015	11/23/94	APS
Volatile Analysis		,				
Acetone	Not det	∖ ug/L	50	SW846 8240	11/23/94	GTM
Benzene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Bromodichloromethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Bromoform	Not det	ug/L	1	SW846 8240	11/23/94	GTM
⁷ Bromomethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
-Butanone (MEK)	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Carbon Disulfide	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Carbon Tetrachloride	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chlorodibromomethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chlorobenzene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
2-Chloroethyl Vinyl Ether	Not det	ug/L	10	SW846 8240	11/23/94	GTM
Chloroform	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Chloromethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
1-Dichloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
1,2-Dichloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
3,1-Dichlotoethene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
arans-1,2-Dichloroethene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
1,2-Dichloropropene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
\$\frac{1}{2}\text{is-1,3-Dichloropropene}	Not det	ug/L	1	SW846 8240	11/23/94	GTM
rans-1,3-Dichloropropene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
H benzene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
.Hexanone	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Methylene Chloride	Not det	ug/L	1	SW846 8240	11/23/94	GTM
4-Methyl-2-Pentanone	Not det	ug/L	50	SW846 8240	11/23/94	GTM
tyrene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
		_				

Project Name: Wacker S
Collection Date: 11/17/94 Wacker Silicons

Eagle Report Number: 5206 Eagle Sample ID: EL20508

Sample Description: Rinse-2

· ·					Analysis	
Parameters	Results	Units	MDL	Method	Date	Analyst
1,1,2,2-Tetrachloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Tetrachloroethene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Toluene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
1,1,1-Trichloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
1,1,2-Trichloroethane	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Trichloroethene	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Vinyl Acetate	Not det	ug/L	50	SW846 8240	11/23/94	GTM
Vinyl Actiate Vinyl Chloride	Not det	ug/L	1	SW846 8240	11/23/94	GTM
Total Xylenes	Not det	ug/L ug/L	3	SW846 8240	11/23/94	GTM
Methyl alcohol	Not det	ug/L ug/L	800	SW846 8240	11/23/94	GTM
Cyclohexane	Not det	=	1000	SW846 8240	11/23/94	GTM
· E	Not det	ug/L	400	SW846 8240		GTM
Isopropyl alcohol	Not det Not det	ug/L			11/23/94	
Ethyl alcohol		ug/L	1000	SW846 8240	11/23/94	GTM
Heptane	Not det	ug/L	500	SW846 8240	11/23/94	GTM
Butyl alcohol	Not det	ug/L	40	SW846 8240	11/23/94	GTM
Semi-Volatile Analysis	No. do.		_	CVV046 0070	11/01/04	DDC
Acenaphthene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Acenaphthylene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Acetaphthylene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benziume	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benzoic acid	Not det	ug/L	20	SW846 8270	11/21/94	PRS
Benzo(a)anthracene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benzo(h)fluoranthene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benzo(k)fluoranthene Benzo(g,h,i)perylene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benzo(g,h,i)perylene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benzo(a)pyrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Benzyl alcohol	Not det	ug/L	10	SW846 8270	11/21/94	PRS
Bis(2-chloroethoxy)methane	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Bis(2-chloroethyl)ether	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Bis(2-chloroisopropyl)ether	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Bis(2-ethylhexyl)phthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
4-Bromophenyl phenyl ether	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Butyl benzyl phthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
4-Chloroaniline	Not det	ug/L	10	SW846 8270	11/21/94	PRS
2-Chloronaphthalene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
1 4-Chloro-3-methylphenol	Not det	ug/L	10	SW846 8270	11/21/94	PRS
2-Chlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
4-Chlorophenylphenyl ether	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Chrysene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Dibenzo(a,h)anthracene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Danzofuran	Not det	ug/L	5	SW846 8270	11/21/94	PRS
33Dr-n-butylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
1,3-Dichlorobenzene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
1,4-Dichlorobenzene	Not det	ug/L	5	SW846 8270	11/21/94	
21,2-Dichlorobenzene	Not det	ug/L	5	SW846 8270	11/21/94	FATRS
						LABORATORIES INC

, Project Name: Wacker Silicons

Collection Date: 11/17/94

Eagle Report Number: 5206 Eagle Sample ID: EL20508

Sample Description: Rinse-2

					Analysis	
Parameters	Results	Units	MDL	Method	Date	Analys
3,3'-Dichlorobenzidine	Not det	ug/L	10	SW846 8270	11/21/94	PRS
2,4-Dichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,6-Dichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Diethylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4-Dimethylphenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Dimethylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
4,6-Dinitro-2-methylphenol	Not det	ug/L	20	SW846 8270	11/21/94	PRS
2,4-Dinitrophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4-Dinitrotoluene	Not det	ug/L	20	SW846 8270	11/21/94	PRS
2,6-Dinitrotoluene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Di-n-octylphthalate	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Fluoranthene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Fluorene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachlorobenzene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachlorobutadiene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachlorocyclopentadiene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Hexachloroethane	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Indeno(1,2,3)pyrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Iso	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2-Methylnaphthalene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2-Methylphenol (o-Cresol)	Not det	ug/L	5	SW846 8270	11/21/94	PRS
4-Methylphenol (p-Cresol)	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Naphthalene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2-Nitroaniline	Not det	ug/L	20	SW846 8270	11/21/94	PRS
3-Nitroaniline	Not det	ug/L	20	SW846 8270	11/21/94	PRS
4-Nitroaniline	Not det	ug/L	20	SW846 8270	11/21/94	PRS
Nitrobenzene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2-Nitrophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
N-Nitrosodiphenylamine	Not det	ug/L	5	SW846 8270	11/21/94	PRS
N-Nitrosodipropylamine	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Pentachlorophenol	Not det	ug/L	20	SW846 8270	11/21/94	PRS
Phenanthrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Phenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
Pyrene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4,5-Trichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
2,4,6-Trichlorophenol	Not det	ug/L	5	SW846 8270	11/21/94	PRS
*		-				



Project Name: Wacker Silicons
Collection Date: 11/17/94

Eagle Report Number: 5206 Eagle Sample ID: EL20508

Sample Description:	Rinse-2
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					Analysis	
Parameters	Results	Units	MDL	Method	Date	Analyst
4-Nitrophenol 1,2,4-Trichlorobenzene	Not det	ug/L	20	SW846 8270	11/21/94	PRS
1,2,4-Trichlorobenzene	Not det	ug/L	5	SW846 8270	11/21/94	PRS
		,				

Not det: Not detected above the MDL

Reviewed by

Date



47930 West Road • Wixom, Michigan 48393 Phone: (810) 624-3090 • Fax: (810) 624-3095

To: CEI ENVIRONMENTAL CONSULTANTS

4763 S. Old U.S. 23

Suite A

Brighton, MI 48116

Eagle Report Number: 5206 Eagle Sample ID: EL20509

Date: 12/14/94

Project Name:

Wacker Silicons

Collection Date: 11/17/94

Sample Description:

SB-1 2'

And September 1					Analysis	
Parameters	Results	Units	MDL	Method	Date	Analyst
FIPH Analysis						
Gasoline	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
Mineral Spirts	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
Kerosene	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
Fuel Oil #2	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
Fuel Oil #6	Not det	mg/Kg	10	SW846 8015	11/23/94	APS
Volatile Analysis						
Acetone	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Benzene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Bromodichloromethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Bromoform	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Bromomethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
҈}-Butanone	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Carbon Disulfide	Not det	ug/Kg	100	SW846,8240	11/30/94	GTM
Zarbon Tetrachloride	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chlorodibromomethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chlorobenzene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
2-Chloroethyl Vinyl Ether	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Chloroform	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chloromethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
,1-Dichloroethane	Not det	ug/Kg	10	SW846 8240-	11/30/94	GTM
1,2-Dichloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
3,1-Dichloroethene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
rans-1,2-Dichloroethene	Not det	ug/Kg	10	SW846 8240	11/30/94	, GTM
1,2-Dichloropropene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
is-1,3-Dichloropropene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Frans-1,3-Dichloropropene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Etherbenzene	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Hexanone	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Methylene Chloride	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
4-Methyl-2-Pentanone	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
tyrene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM



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To: CEI ENVIRONMENTAL CONSULTANTS

4763 S. Old U.S. 23

Suite A

Brighton, MI 48116

Eagle Report Number: 5206 Eagle Sample ID: EL20510

¿ Project Name:

Date: 12/14/94

Wacker Silicons

Collection Date: 11/17/94

Sample Description:

SB-1 5'

					Analysis	
² Parameters	Results	Units	MDL	Method	Date	Analyst
TPH Analysis						
Gasoline	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
Mineral Spirts	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
7 Kerosene	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
্ট্র Fuel Oil #2	Not det	mg/Kg	5	SW846 8015	11/23/94	APS
Fuel Oil #6	Not det	mg/Kg	10	SW846 8015	11/23/94	APS
Volatile Analysis						
Acetone	Not det	\ ug/Kg	100	SW846 8240	11/30/94	GTM
Benzene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Bromodichloromethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Bromoform	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Bromomethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
2-Butanone	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Carbon Disulfide	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Carbon Tetrachloride	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chlorodibromomethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chlorobenzene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
&Chloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
2-Chloroethyl Vinyl Ether	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Chloroform	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Chloromethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
1,1-Dichloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
1,2-Dichloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
1,1-Dichloroethene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Irans-1,2-Dichloroethene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
1,2-Dichloropropene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
çis-1,3-Dichloropropene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
ra 3-Dichloropropene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Eth, penzene	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
2-Hexanone	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Methylene Chloride	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
4-Methyl-2-Pentanone	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Styrene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM

Project Name: Wacker S
Collection Date: 11/17/94 Wacker Silicons

Eagle Report Number: 5206 Eagle Sample ID: EL20510

Sample Description:

SB-1 5'

Parameters Results Units MDL Method Date	Analyst
	
	GTM
Tetrachloroethene Not det ug/Kg 10 SW846 8240 11/30/94	GTM
Toluene Not det ug/Kg 10 SW846 8240 11/30/94	GTM
1,1,1-Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94	GTM
1,1,2-Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94	GTM
Trichloroethene Not det ug/Kg 10 SW846 8240 11/30/94	GTM
Vinyl Acetate Not det ug/Kg 100 SW846 8240 11/30/94	GTM
Vinyl Chloride Not det ug/Kg 10 SW846 8240 11/30/94	GTM
Total Xylene Not det ug/Kg 30 SW846 8240 11/30/94	GTM
Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94	GTM
Cyclohexane Not det ug/Kg 1000 SW846 8240 11/30/94	GTM
Isopropyl alcohol Not det ug/Kg 400 SW846 8240 11/30/94	GTM
Ethyl alcohol Not det 11/30/94	GTM
Heptane Not det ug/Kg 1000 SW846 8240 11/30/94	GTM
Butyl alcohol Not det ug/Kg 200 SW846 8240 11/30/94	GTM
	Q
Semi-Volatile Analysis	
Acenaphthene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Amphthylene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Animacene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Benzidine Not det ug/Kg 5000 SW846 8270 11/21/94	PRS
Benzoic acid Not det ug/Kg 1700 SW846 8270 11/21/94	PRS
Benzo(a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Benzo(b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Benzo(k)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Benzo(g,h,i)perylene Not det ug/Kg 330 SW846 8270 * 11/21/94	PRS
Benzo(a)pyrene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Benzyl alcohol Not det ug/Kg 660 SW846 8270 11/21/94	PRS
Bis(2-chloroethoxy)methane Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Bis(2-chloroethyl)ether Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Bis(2-chloroisopropyl)ether Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Bis(2-ethylhexyl)phthalate Not det ug/Kg 330 SW846 8270 11/21/94	PRS
4-Bromophenyl phenyl ether Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Butyl benzyl phthalate Not det ug/Kg 330 SW846 8270 11/21/94	PRS
4-Chloroaniline Not det ug/Kg 660 SW846 8270 11/21/94	PRS
2-Chloronaphthalene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
-4-Chloro-3-methylphenol Not det ug/Kg 660 SW846 8270 11/21/94	PRS
2-Chlorophenol Not det ug/Kg 330 SW846 8270 11/21/94	PRS
4-Chlorophenylphenyl ether Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Chrysene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Dibenzo(a,h)anthracene Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Dif Ofuran Not det ug/Kg 330 SW846 8270 11/21/94	PRS
Di-n-butylphthalate Not det ug/Kg 330 SW846 8270 11/21/94	PRS
	PRS
1,4-Dichlorobenzene Not det ug/Kg 330 SW846 8270 11/21/94	
्रे ,2-Dichlorobenzene Not det ug/Kg 330 SW846 8270 11/21/94	EACRS
	LA FORTORIES

Project Name: Wacker Silicons

Collection Date: 11/17/94

Eagle Report Number: 5206 Eagle Sample ID: EL20510

Sample Description: SB-1 5'

Donomotour	n. 6	TT*-	3 /	3.6 (4) (5)	Analysis	
Parameters	Results	Units	MDL	Method	Date	Analy
3,3'-Dichlorobenzidine	Not det	ug/Kg	660	SW846 8270	11/21/94	PRS
2,4-Dichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,6-Dichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Diethylphthalate	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4-Dimethylphenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Dimethylphthalate	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
4,6-Dinitro-2-methylphenol	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
2,4-Dinitrophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4-Dinitrotoluene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,6-Dinitrotoluene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Di-n-octylphthalate	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Fluoranthene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Fluorene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachlorobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachlorobutadiene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachlorocyclopentadiene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachloroethane	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
In o(1,2,3)pyrene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Isophorone	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Methylnaphthalene	Not det	, ug/Kg	330	SW846 8270	11/21/94	PRS
2-Methylphenol (o-Cresol)	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
4-Methylphenol (p-Cresol)	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Naphthalene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Nitroaniline	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
3-Nitroaniline	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
4-Nitroaniline	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
Nitrobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Nitrophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
N-Nitrosodiphenylamine	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
N-Nitrosodipropylamine	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Pentachlorophenol	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
Phenanthrene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Phenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Рутепе	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4,5-Trichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4,6-Trichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS



Project Name: Wacker Silicons Collection Date: 11/17/94 Eagle Report Number: 5206 Eagle Sample ID: EL20510

Sample Description: SB-1 5'

					Analysis			
7	Parameters	Results	Units	MDL	Method	Date	Analyst	
j								
4	4-Nitrophenol 1,2,4-Trichlorobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS	
3	1,2,4-Trichlorobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS	

Not det: Not detected above the MDL

Reviewed by

Date 12/14/94



Project Name: Wacker S Collection Date: 11/17/94 Wacker Silicons

Eagle Report Number: 5206 Eagle Sample ID: EL20509

Sample Description: SB-1 2'

1,1,2,2-Tetrachloroethane Not det ug/Kg 10 SW846 8240 11/30/94 GTM Tetrachloroethene Not det ug/Kg 10 SW846 8240 11/30/94 GTM	Sample Bescription: 5B-1 2						
1,1,2,2-Tetrachloroethane	Parameters	Results	Units	MDL	Method	-	Analyst
Tetrachloroethene Not det ug/Kg 10 SW846 8240 11/30/94 GTM Toluene Not det ug/Kg 10 SW846 8240 11/30/94 GTM 1,1,1-Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94 GTM 1,1,1-Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94 GTM 1,1,1-Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94 GTM Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94 GTM Vinyl Acetate Not det ug/Kg 100 SW846 8240 11/30/94 GTM Vinyl Acetate Not det ug/Kg 100 SW846 8240 11/30/94 GTM Vinyl Acetate Not det ug/Kg 100 SW846 8240 11/30/94 GTM Vinyl Acetate Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Accesaphthene Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Analysis Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Not det ug/Kg 30 SW846 8270 11/21/94 PRS Sepro-Volatile Not det ug/Kg 30 SW846 8270 11/21/94 PRS S	i de la companya de l						
Toluene	1,1,2,2-Tetrachloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
1,1,1-Trichloroethane	Tetrachloroethene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
1,1,2-Trichloroethane Not det ug/Kg 10 SW846 8240 11/30/94 GTM Trichloroethene Not det ug/Kg 10 SW846 8240 11/30/94 GTM Vinyl Acetate Not det ug/Kg 100 SW846 8240 11/30/94 GTM Total Xylene Not det ug/Kg 10 SW846 8240 11/30/94 GTM Total Xylene Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Symathyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sintyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Sintyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Stephyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Stephyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Stephyl alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM Stephyl alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM Stephyl alcohol Not det ug/Kg 330 SW846 8240 11/30/94 GTM Stephyl alcohol Not det ug/Kg 330 SW846 8270 11/21/94 PRS Accapaphthylene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzola harbacene Not det ug/Kg 330 SW846 8270 1	Toluene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Trichloroethene Not det ug/Kg 10 SW846 8240 11/30/94 GTM Vinyl Acetate Not det ug/Kg 10 SW846 8240 11/30/94 GTM Vinyl Chloride Not det ug/Kg 10 SW846 8240 11/30/94 GTM Total Xylene Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Sepropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Isopropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Isopropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Isthyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Hethyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Semi-Volatile Analysis Acenaphthene Not det ug/Kg 200 SW846 8240 11/30/94 GTM Semi-Volatile Analysis Acenaphthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Answiccene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Answiccene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethoxy)methane Not det ug/Kg 330 SW846 8270 11/21/94 PRS Budicho	1,1,1-Trichloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Vinyl Acetate Not det ug/Kg 100 SW846 8240 11/30/94 GTM Vinyl Chloride Not det ug/Kg 10 SW846 8240 11/30/94 GTM Total Xylene Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Cyclohexane Not det ug/Kg 400 SW846 8240 11/30/94 GTM Ehryl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Heptane Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Butyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Butyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Semity alcohol Not det ug/Kg 330 SW846 8270 11/21/94 PRS Accephithylene Not det ug/Kg 330 <td>1,1,2-Trichloroethane</td> <td>Not det</td> <td>ug/Kg</td> <td>10</td> <td>SW846 8240</td> <td>11/30/94</td> <td>GTM</td>	1,1,2-Trichloroethane	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Vinyl Chloride Not det ug/Kg 10 SW846 8240 11/30/94 GTM Total Xylene Not det ug/Kg 30 SW846 8240 11/30/94 GTM Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Isopropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Isopropyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Helptane Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Semi-Volatile Analysis Accenaphtene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Accenaphthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Anexchene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzolatile Analysis Accenaphthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Acce	Trichloroethene	Not det	ug/Kg	10	SW846 8240	11/30/94	GTM
Viny Chloride	Vinyl Acetate	Not det	ug/Kg	100	SW846 8240	11/30/94	GTM
Total Xylene	Vinyl Chloride	Not det		10	SW846 8240	11/30/94	GTM
Methyl alcohol Not det ug/Kg 800 SW846 8240 11/30/94 GTM Cyclohexane Not det ug/Kg 1000 SW846 8240 11/30/94 GTM GTM Ethyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Ethyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM GTM Ethyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM GTM Ethyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM GTM Ethyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM G	Total Xylene	Not det		30	SW846 8240		GTM
Cyclohexane		Not det		800	SW846 8240		
Sepropy alcohol Not det ug/Kg 100 SW846 8240 11/30/94 GTM Eithyl alcohol Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Heptane Not det ug/Kg 1000 SW846 8240 11/30/94 GTM Buryl alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM Buryl alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM Semi-Volatile Analysis Semi-Volatile Analysis Semi-Volatile Analysis Accapathine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Accapathine Not det ug/Kg 330 SW846 8270 11/21/94 PRS Analocene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS 3is(2-chloroethyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS 3is(2-chloroethyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS 3is(2-chloroethyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS 3is(2-chloroathine Not det ug/Kg 33	1	Not det		1000	SW846 8240	11/30/94	
Ethyl alcohol	Isopropyl alcohol	Not det	• •	400	SW846 8240		GTM
Heptane		Not det		1000	SW846 8240		
Burly alcohol Not det ug/Kg 200 SW846 8240 11/30/94 GTM	· •	Not det		1000			
Acenaphthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Acenaphthylene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Antwacene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Antwacene Not det ug/Kg 5000 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 5000 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 1700 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (b)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzoic (c)fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethoxy)methane Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorospropyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorospropyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorospropyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorospropyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorospropyl)ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorosphihal	1 -	Not det					
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Anti-accee Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzidine Not det ug/Kg 5000 SW846 8270 11/21/94 PRS Benzoic acid Not det ug/Kg 1700 SW846 8270 11/21/94 PRS Benzo(a) anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(b) fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(k) fluoranthene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(a) pyrene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(a) pyrene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(a) pyrene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(a) pyrene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Benzo(a) pyrene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethoxy) methane Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethoxy) methane Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroethyl) phthalate Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroisopropyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroisopropyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroisopropyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroisopropyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroisopropyl) ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroinline Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloroinline Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chloronaphthalene Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl phenol Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl phenol Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl phenol Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl ether Not det ug/Kg 330 SW846 8270 11/21/94 PRS Bis(2-chlorophenyl ether Not det ug/Kg 330 S	-						
Benzidine							
Benzoic acid							
Benzo(a)anthracene Not det ug/Kg 330 SW846 8270 11/21/94 PRS			,				
Benzo(b)fluoranthene	Ý.						
Benzo(k)fluoranthene	1						
Benzo(g,h,i)perylene	` *						
Benzo(a)pyrene Not det ug/Kg 330 SW846 8270 11/21/94 PRS	,						
Benzyl alcohol Not det ug/Kg 330 SW846 8270 11/21/94 PRS	· · · · · · · · · · · · · · · · · · ·						
Bis(2-chloroethoxy)methane							
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Project Name: Wacker Silicons

Collection Date: 11/17/94

Eagle Report Number: 5206 Eagle Sample ID: EL20509

Sample Description: SB-1 2'

_	_				Analysis	
Parameters	Results	Units	MDL	Method	Date	Analys
ı						
3,3'-Dichlorobenzidine	Not det	ug/Kg	660	SW846 8270	11/21/94	PRS
2,4-Dichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,6-Dichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Diethylphthalate	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
³ 2,4-Dimethylphenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Dimethylphthalate	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
4,6-Dinitro-2-methylphenol	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
² 2,4-Dinitrophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4-Dinitrotoluene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,6-Dinitrotoluene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Di-n-octylphthalate	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Fluoranthene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Fluorene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachlorobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachlorobutadiene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachlorocyclopentadiene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Hexachloroethane	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Indexo(1,2,3)pyrene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Isoptorone	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Methylnaphthalene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Methylphenol (o-Cresol)	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
4-Methylphenol (p-Cresol)	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Naphthalene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Nitroaniline	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
3-Nitroaniline	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
4-Nitroaniline	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
Nitrobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2-Nitrophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
N-Nitrosodiphenylamine	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
N-Nitrosodipropylamine	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Pentachlorophenol	Not det	ug/Kg	1700	SW846 8270	11/21/94	PRS
Phenanthrene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Phenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
Pyrene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4,5-Trichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS
2,4,6-Trichlorophenol	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS



Project Name:

Wacker Silicons

Collection Date: 11/17/94

Eagle Report Number: 5206 Eagle Sample ID: EL20509

Sample Description:

SB-1 2'

., -					Analysis			
The same of	Parameters	Results	Units	MDL	Method	Date	Analyst	
3								
4	4-Nitrophenol 1,2,4-Trichlorobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS	
	1,2,4-Trichlorobenzene	Not det	ug/Kg	330	SW846 8270	11/21/94	PRS	
7	<u> </u>	,						
1								

Not det: Not detected above the MDL

Reviewed by



NATURAL RESOURCES COMMISSION

ERRY C. BARTNIK RY DEVUYST LEISELE JAMES HILL DAVID HOLLI JOEY M. SPANO JORDAN B. TATTER



JOHN ENGLER, Governor

RECEIVED WMD RECORD CENTER

JAN 09 1995

DEPARTMENT OF NATURAL RESOURCES

John Hannah Building, P.O. Box 30241, Lansing, MI 48909

ROLAND HARMES, Director

October 20, 1994

Mr. Gordon C. Philbrook Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

Dear Mr. Philbrook:

SUBJECT: Closure Plan Approval

Sugaryan ettyris

Container Storage Area

Wacker Silicones Corporation (Wacker)

MID 075 400 671

OFFICE OF RCRA

EPA, REGION V

The Michigan Department of Natural Resources (MDNR), Waste Management Division (WMD) has completed its review of the revised closure plan for the above referenced facility, submitted on August 29, 1994. Based on this review, and the fact that no significant comments were received during the public comment period, the MDNR hereby approves the closure plan subject to the attached "Condition for Closure Plan Approval." The rationale for the modification is also provided.

The plan is approved with the modification because the previously approved closure plan, an element of the Part B permit, did not meet the current Michigan closure requirements. The modified closure plan is the approved closure plan. Wacker shall implement the approved closure plan according to the schedule contained therein. Failure to implement the approved closure plan may result in enforcement action.

If Wacker determines that it is unable to complete closure in compliance with the approved closure plan, a modification to the approved closure plan must be requested in writing and be proposed:

- Sixty days prior to a proposed change in facility design or operation;
- Within 60 days after an unexpected event that has affected the closure plan; and/or
 - Within 30 days after an unexpected event during the closure period.

All closure plan amendments must be approved by the MDNR prior to implementation by Wacker.



Closure of the unit does not release the company from any plant-wide corrective action responsibilities it may have under the federal Hazardous and Solid Waste Amendments of 1984 or to the Resource Conservation and Recovery Act of 1976. If you have any questions, please contact Ms. Angela L. Hahn at Waste Management Division, Michigan Department of Natural Resources, P.O. Box 30241, Lansing, Michigan 48909, or at telephone number 517-373-7738.

Sincerely,

Jim Sygo, Chief Waste Management Division 517-373-9523

Enclosure

cc/enc: Mr. Richard Traub, U.S. EPA

Ms. Lorraine Kosik, U.S. EPA

Ms. Deborah Hennessey, Michigan Jobs Commission

Mr. Martin Jacobson, MDNR-Jackson Mr. Steve Buda/Ms. Angela Hahn, MDNR

Ms. Jan Sealock, MDNR

HWP/C&E File

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION

JERRY C. BARTNIK
RRY DEVLYST
JL EISELE
JAMES HILL
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JOEY M. SPANO
JORDAN B. TATTER



JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURC

John Hannah Building, P.O. Box 30241, Lansing, MI 48909

ROLAND HARMES, Director



July 27, 1994

OFFICE OF RCRA Waste Management Division U.S. EPA, REGION V

Mr. Gordon C. Philbrook Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

RECEIVED
WMD RECORD CENTER

Dear Mr. Philbrook:

JAN 09 1995

SUBJECT: Closure Plan Notice of Deficiency

Wacker Silicones Corporation (Wacker)

MID 075 400 671

The Michigan Department of Natural Resources, Waste Management Division (WMD) has completed a review of the closure plan for the drum storage area at the above referenced facility, submitted March 4, 1994. The plan is unacceptable due to the deficiencies listed in the attached "Notice of Deficiency."

Four copies of the completely revised closure plan must be submitted to the Chief of the WMD by August 26, 1994. Please be advised that failure to submit a complete closure plan is a violation of 40 CFR 264.112 and may subject the company to fines and penalties pursuant to Section 48 of Act 64.

If you have any questions, please contact me.

Sincerely,

Angela L. Hahn

Hazardous Waste Program Section

Waste Management Division

517-373-7738

Enclosures

cc/enc: Mr. Richard Traub, U.S. EPA

Ms. Lorraine Kosik, U.S. EPA

Ms. Deborah Hennessey, Michigan Jobs Commission

Mr. Martin Jacobson, DNR-Jackson

Mr. Steve Buda, DNR Ms. Jan Sealock, DNR

HWP/C&E File



NOTICE OF DEFICIENCY

Wacker Silicones Corporation MID 075 400 671 Closure Plan

1. The closure plan (plan) must contain a detailed proposal (i.e., sample location, analytical techniques, analytical detection limits, sampling technique and equipment, decontamination techniques, etc.) to sample the soils in the area where waste was pumped from the drum storage pad and in any other areas that may have been impacted by hazardous waste management activities at the drum storage pad. Sampling should be conducted for the constituents of the hazardous wastes that were stored in containers on the pad. A list of these wastes should be provided in the plan.

The enclosed April 1994 Michigan Department of Natural Resource (MDNR) Guidance Document for Verification of Soil Remediation provides guidance on sampling protocol and necessary documentation for clean closure of hazardous waste facilities. Also enclosed is a copy of MERA Operational Memorandum #8, Revision 3, dated February 4, 1994, which provides the Type B cleanup criteria for soil and groundwater that have been developed pursuant to the Michigan Environmental Response Act, 1982 P.A. 307, as amended (Act 307 or MERA), and MERA Operational Memorandum #6, Revision 3, dated February 4, 1994, which provides acceptable method detection limits. These are the cleanup levels that are now being used for all cleanups approved by These documents should be used in developing the the MDNR. sampling proposal segment of the closure plan in order to verify clean closure of this storage pad in compliance with the closure performance standard specified in 40 CFR 264.111.

If Wacker does not verify clean closure at the time of closure of the drum storage pad, Wacker may have future state and/or federal corrective action responsibilities for remediation of contamination resulting from hazardous waste storage on this pad.

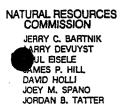
2. The closure plan and the closure certification report that will be submitted after closure is completed should include a site plan that shows the location of the area in which hazardous waste had been pumped from the drum storage pad, any ancillary equipment, and the locations of any soil sampling that is conducted.

- 3. The closure plan should include a schedule for the activities the plan entails based upon Waste Management Division (WMD) approval of the closure plan.
- 4. The plan should indicate that mechanical scrubbing of the concrete will be performed in areas where there are solid residues and in stained areas if these conditions are detected. The closure plan should also indicate that after washing the drum storage pad with industrial detergent, it will be visually inspected to verify that all residue has been removed.
- 5. The closure plan should include provisions to rinse the pad twice after it is washed, and a description of the testing that will be conducted to characterize all wash and rinse waters before proper disposal.
- 6. The closure plan should include provisions to seal, after decontaminating the storage pad, any surface cracks with a material such as the silicone product currently used on the pad for this purpose.
- 7. The plan should contain either provisions to amend the closure plan if soil contamination is discovered or plans to remediate any soil contamination.
- 8. The plan must state that the completion of closure according to the approved plan will be certified by both the independent professional engineer and the authorized representative of the facility owner and that the certification will include the wording specified in 40 CFR 270.11(d). A copy of the delegation of authority must also be included for the signatory as specified in 270.11(b).
- 9. The plan should state that the closure certification document will be submitted within 60 days after completing closure activities in accordance with 40 CFR 264.115.
- 10. The plan must be revised to indicate the expected date of closure for the unit. In the current plan it is estimated to be in the year 2021.
- 11. The closure plan must use the wording contained in 40 CFR 264.111 to state that it will close in accordance with the closure performance standard.

- 12. The closure plan should be revised to indicate that if an unexpected event occurs during closure activities (which will require a modification of the closure plan), then a written request to amend the closure plan will be submitted within 30 days to the WMD for approval in accordance with 40 CFR 264.112(c)(3).
- 13. The closure plan should include a statement that Wacker will notify the WMD Lansing Hazardous Waste Program Section staff (Angela Hahn at 517-373-7738) and Jackson District staff (Martin Jacobson at 517-780-7842) at least five work days in advance of the following activities so they can be present to observe and obtain samples, if desired:

Storage pad decontamination
Soil sampling
Soil excavation and resampling (if necessary)
Restoration of the pad for generator accumulation
(sealing the cracks)

FILE COPY





JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director

Jackson District Office 301 E. Louis Glick Highway, Jackson, MI 49201

March 16, 1994

Mr. Gordon C. Philbrook Administrator Environmental Regulations Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

Inspections

Dear Mr. Philbrook:

SUBJECT: MID075400671

On February 28, 1994, staff of the Michigan Department of Natural Resources (MDNR) conducted an investigation of your facility located at 3301 Sutton Road, Adrian, Michigan, to evaluate compliance with the Michigan Hazardous Waste Management Act, 1979 PA 64, as amended, MCL 299.501 et seq (Act 64) and Subtitle C of the Federal Resource Conservation and Recovery Act (RCRA), as amended, and any regulations promulgated pursuant to these Acts.

Based upon information obtained and observations made during the inspection, staff of MDNR have determined that your facility is in compliance with the requirements of Act 64 and Subtitle C of RCRA.

If you have any questions regarding this matter please feel free to contact me.

Sincerely,

Martin L. Jacobson

Environmental Quality Analyst

Waste Management Division

517-780-7842

MLJ/cb

c: Cheryl Howe, WMD



HNP/C:E

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION

JERRY C. BARTNIK LARRY DEVUYST PAUL EISELE MES HILL 1D HOLLI Y M. SPANO JORDAN B. TATTER



JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

John Hannah Building, P.O. Box 30241, Lansing, MI 48909

ROLAND HARMES, Director

June 6, 1994

Mr. Gordon C. Philbrook Wacker Silicones Corporation 3301 Sutton Road Adrian, Michigan 49221-9397

Dear Mr. Philbrook:

Release from Financial Capability Requirements for SUBJECT: Closure of Hazardous Waste Storage Tanks T-105 and

T-108, Adrian, Michigan Facility; MID 075 400 671

The Michigan Department of Natural Resources (Department) has completed a review of the closure certification for Tanks T-105 and T-108 at the subject facility that was transmitted with your cover letter dated January 3, 1994. closure certification was submitted to document partial closure activities as required by the Hazardous Waste Management Act, 1979 PA 64, as amended (Act 64). Based upon the certification, Wacker Silicones Corporation (Wacker) is hereby released from the financial capability requirements for closure of the hazardous waste storage tanks designated as Tanks T-105 and T-108 at the Adrian, Michigan Facility under Part 7 of the Act 64 Rules. Wacker is therefore no longer required to demonstrate financial assurance for closure of Tanks T-105 and T-108 by use of the certificate of deposit. Wacker must continue to demonstrate financial assurance for closure of the container storage area.

Based upon Wacker's March 4, 1994 updated cost estimate for closure of the container storage area, Wacker must maintain financial assurance in an amount not less than \$54,540 for the container storage area. The recently signed agreement of acceptance between Wacker, Society National Bank, and the Department, effected a new Time Deposit account in excess of \$70,000, which will be established on June 16, 1994. By a separate letter, the Department will authorize Society National Bank to pay the excess funds to Wacker.

This release of financial capability requirements does not release Wacker from any corrective action responsibilities that Wacker may have for Tanks T-105 and T-108 under the federal Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984. In addition, because all hazardous waste management units are not closed, Wacker is not released from the pollution liability coverage requirements under Act 64.

If you have questions regarding this matter, please contact Ms. Angela Hahn at Waste Management Division, Department of Natural Resources, P.O. Box 30241, Lansing, Michigan 48909, or at telephone number 517-373-7738.

Sincerely,

Jim Sygo, Chief

Waste Management Division

517-373-9523

cc: Mr. Richard Traub, U.S. EPA

Ms. Lorraine Kosik, U.S. EPA

Mr. Mohammad Yusaf/Mr. Martin Jacobson, DNR-Jackson

Mr. Ken Burda, DNR, HWP/C&E File

Mr. Steve Buda, DNR

Mr. Steve Sliver, DNR

Ms. Angela Hahn, DNR

B.1.1-B.1.3 Correspondence/Draft Permit
Wacker Silicones Corporation

MID 075 400 671

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VAUKER

Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397 (517) 264-8500

RECEIVE 164-8246

March 4, 1994

WMD RECORD CENTER

JAN 09 1995

Ms. Cheryl Howe, Senior Environmental Engineer Michigan Department of Natural Resources Waste Management Division Hazardous Waste Permits Section Ottawa Building South P. O. Box 30241 Lansing, Michigan 48909

MAR 5 1994

WASTE MANAGEMENT DIVISION EPA REJION Y

Re:

Wacker Silicones Corporation

(formerly SWS Silicones Corporation)

US EPA ID # MID 075400671

Dear Ms. Howe:

We currently have a Resource Conservation and Recovery Act (RCRA) Part B Hazardous Waste Storage Permit, which will expire on September 10, 1994.

We are requesting that the Michigan Department of Natural Resources (MDNR) Closure Out this permit and to change the status of our facility to that of Large Quantity Generator.

Enclosed are three copies of the Wacker Silicones Corporation RCRA Closure Plan. Please note that the cost has been updated recently to reflect the 1993 inflation factor. Also included are plot plans of our facility and storage areas.

If you have any questions, please call me at 517-264-8361.

Yours truly,

WACKER SILICONES CORPORATION

Gordon C. Philbrook

Administrator

Environmental Regulations

Certified

CC:

Mr. Martin Jacobson MDNR Jackson Office

Mr. Rich Traub

US EPA Region V

RCRA CLOSURE PLAN

DRUM STORAGE

OF MICHIGA

GORDON

PHILBROOK

ENGINEER

NO.

18243

POFESSION

REGIS

It is estimated that the storage pad will require closure in about the year 2021. Generally, drum storage areas will be emptied by the removal of the drums to an approved disposer. Only Michigan, US EPA and Wacker-approved haulers will be used. Only US EPA, Wacker and possibly Michigan-approved disposers will be used.

The drum pad will be washed with water and industrial detergent. Washings will be put in drums for disposal by an approved hauler and disposer, if contaminated. Otherwise, the washings will go to the chemical sewer. The entire schedule of closure should take about three months.

After thorough decontamination, the storage pad will be used for storage of hazardous wastes for periods less than 90 days, or other materials for any time.

An independent professional engineer will certify completion of the closure.

See attached forms for the closure plan drum storage area.

Certified, by,

Gardon C. Philbrook

Gordon C. Philbrook

WACKER SILICONES CORPORATION

Administrator,

Environmental Regulations, CHMM,

Professional Engineer,

State of Michigan

PE 18243

Revised: August 24, 1993

RCRA CLOSURE PLAN

DRUM STORAGE AREA

DATE: August 24, 1993 AREA: 2,500 FT²

AREA DESCRIPTION: Hazardous waste pad; East of HiBay area

CAPACITY: 500 drums

MAXIMUM NUMBER OF DRUMS STORED: 400

WHEN CLOSED: Unknown; estimated in year 2021

CLOSURE COST: \$53,000

WACKER SILICONES CORPORATION RCRA CLOSURE PLAN TOTAL CLOSURE COST

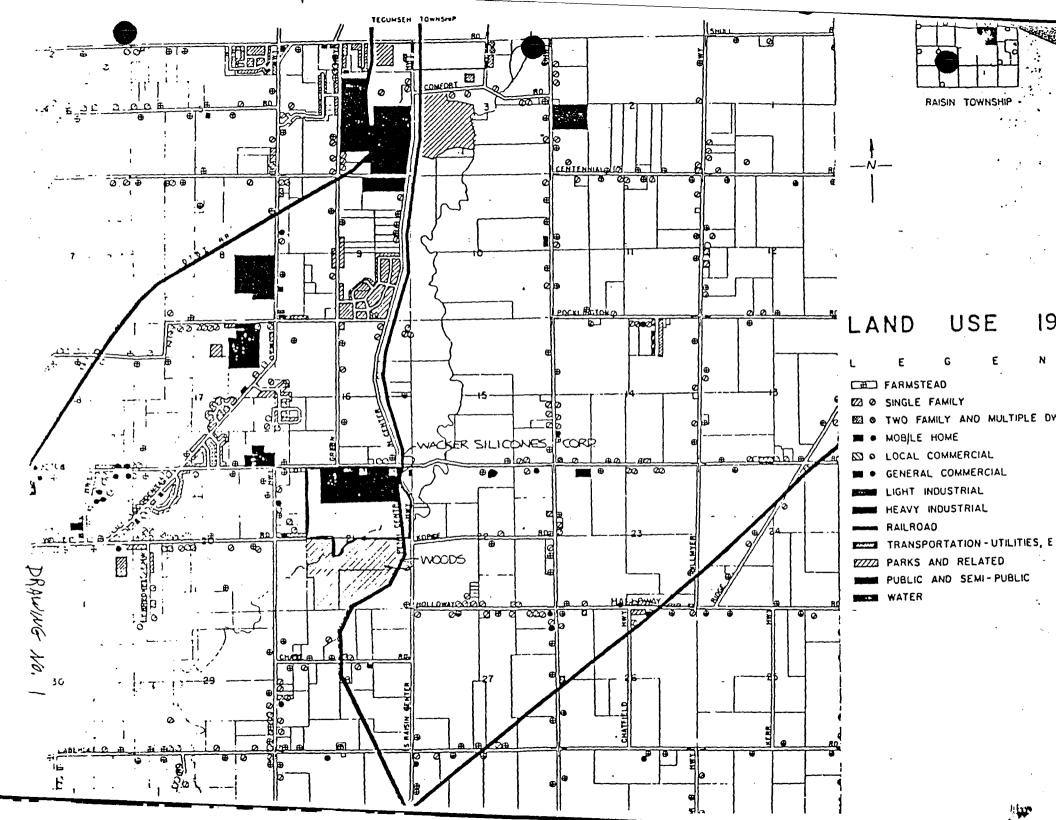
DRUM PAD

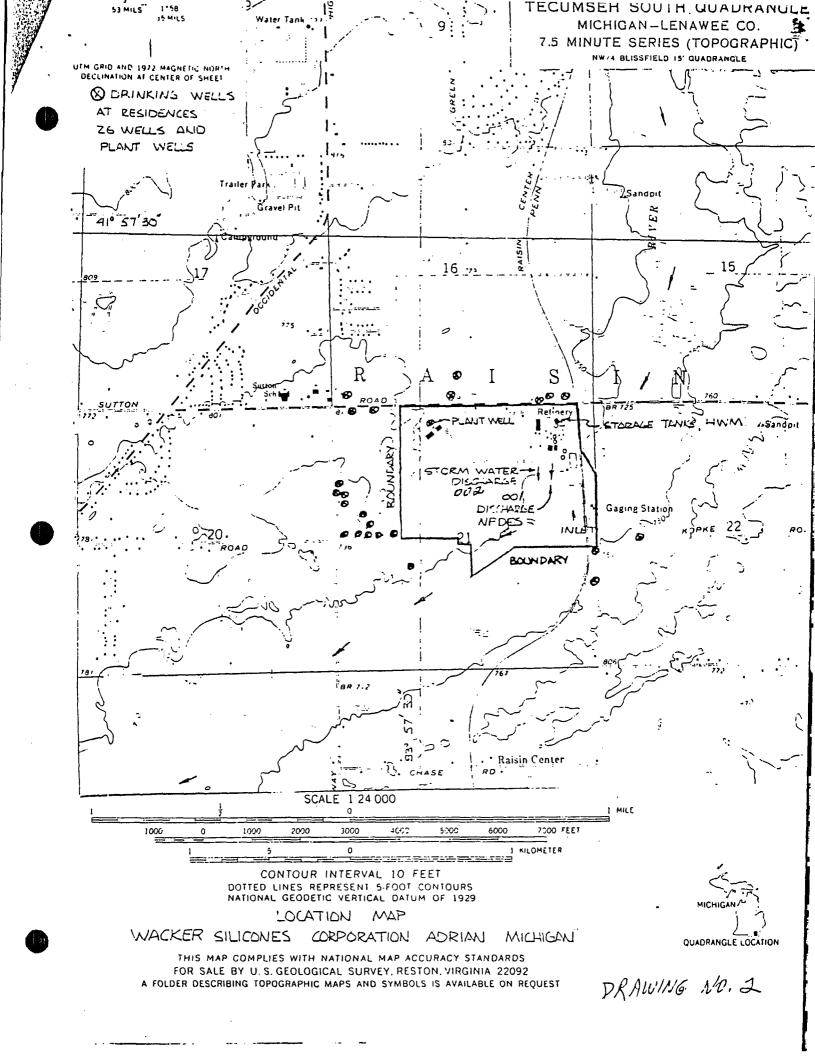
1.	Remove drums 400	X \$120	\$48,000
2.	Decontamination,	sampling	5,000
	1	Net Cost	\$53,000

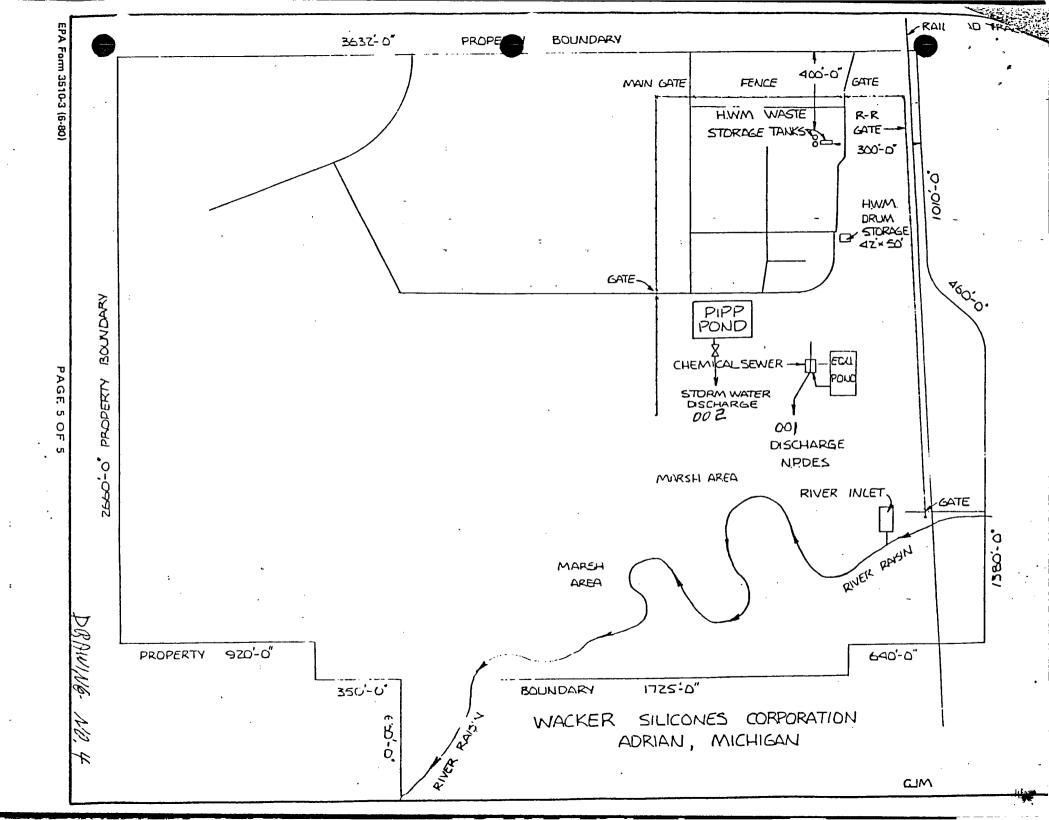
RCRA CLOSURE PLAN

1994 ADDENDUM

- 1. Gross Domestic Product inflation for 1993 is 1.029.
- 2. Closure Cost = \$53,000 X 1.029 = \$54,540.







RECEIVED WMD RECORD CENTER

JAN 09 1995

Wacker Silicones Corporation 3301 Sutton Road Adrian, MI 49221-9397 (517) 264-8500 Fax (517) 264-8246

October 24, 1991

Michigan Department of Natural Resources Waste Management Division 1st Floor, South Ottawa Building P. O. Box 30028 Lansing, Michigan 48909

Re: Wacker Silicones Corporation (formerly SWS Silicones Corporation) US EPA ID# MID 075400671

DE BENDE PACRICAL VI. OFFICE OF REGION V. OFFICE OF REGION V.

Gentlemen:

We have a final "Part B" Resource Conservation and Recovery Act (RCRA) Permit to store hazardous waste at our facility. The permit will expire on September 10, 1994.

The permit covers storage in containers on a storage pad, and storage in three tanks, T-101, T-105 and T-108.

In accordance with Act No. 64, R 299.9613 (Rule 613), Closure and Post-Closure, this letter is to notify you that we plan to do a partial-closure of this permit by closing-out the T-101 storage tank. This tank was used to store waste 1,1,1-trichloroethane. However, we no longer use this solvent as a cleaning agent.

The tank is now essentially empty. The waste 1,1,1-trichloroethane was sent to a solvent reclaimer, Petro Chem, Inc., in Detroit. Also a waste-water layer was sent to an approved waste treatment company, Environmental Waste Control, Inc. in Inkster. This included the first high-pressure lance washing. A small amount, (about 1,050 gallons) of rusty water remains in the tank.

Attached is a copy of the Wacker Silicones Corporation RCRA Closure Plan. We are proposing a slight deviation from the attached procedure. After the initial washing with a high pressure lauce (which did go to Environmental Waste Control), the subsequent washings, which will be only slightly contaminated, will be taken to our own on-site waste wash-water treating system, which is part of pure of the control of the contaminated of the contamina

OCT 2 9 1991

approved NPDES permit operation (Michigan Permit Number 0026034).

We expect to have the completed, certified closure of T-101 in about 90 days. We have arranged for the services of a professional engineer from SSOE, Inc. of Toledo, Ohio, to verify the closure procedure.

If you need any more information, please contact me at the above address, or call me at 517-264-8361.

Yours truly,

WACKER SILICONES CORPORATION

Hilbrookkow

Gordon C. Philbrook

Administrator,

Environmental Regulations

Certified

CC: Mr. Martin Jacobson

(MDNR, Jackson MI) US EPA, Region V

RCRA Closure Plan

I. Tanks

It is estimated that the tanks will require closure about the year 2001. Generally, tanks containing hazardous waste materials will be emptied to tank trucks for removal and disposal of contents. Only Michigan, US EPA, and Wacker-approved haulers will be used. Only US EPA and Wacker-approved disposers will be used.

Tanks and ancillary equipment will then be decontaminated by washing the tank, piping, pump, and associated equipment with three increments of water and industrial detergent. The washing agent will be recirculated and pumped by high pressure lance. Washings will be put in drums for disposal by an approved hauler and disposer.

The tanks, piping, and associated equipment will then be purged with air. The entire schedule of closure should take about 4 months.

The tanks can then be used to store hazardous wastes for periods less than 90 days.

An independent professional engineer will certify completion of the closure.

II. Drum Storage

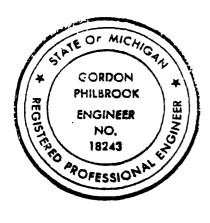
It is estimated that the storage pad will require closure in about the year 2021. Generally, drum storage areas will be emptied by the removal of the drums to an approved disposer. Only Michigan, US EPA and Wacker-approved haulers will be used. Only US EPA, Wacker and possibly Michigan-approved disposers will be used.

The drum pad will be washed with water and industrial detergent. Washings will be put in drums for disposal by an approved hauler and disposer, if contaminated. Otherwise, the washings will go to the chemical sewer. The entire schedule of closure should take about 3 months.

After thorough decontamination, the storage pad will be used for storage of hazardous wastes for periods less than 90 days.

An independent professional engineer will certify completion of the closure.

See attached forms for closure plan tanks and drum storage areas.



Certified by,

Gordon C. Philbrook
Wacker Silicones Corporation
Administrator, Environmental
Regulations
Professional Engineer
State of Michigan
PE 18243

Revised: February 29, 1988